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A CONTRASTIVE PHONOLOGICAL ANALYSIS
OF ENGLISH AND VIETNAMESE

by

Nguyễn Đăng Liêm

A CONTRASTIVE ANALYSIS OF ENGLISH
AND VIETNAMESE

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INTRODUCTION TO THE CONTRASTIVE PHONOLOGICAL ANALYSIS

The fundamental principle guiding the writing of this contrastive phonological analysis of English and Vietnamese, as well as the writing of the contrastive grammatical analysis, is the conviction, held by many linguists and foreign language teaching specialists, that one of the major problems in learning a foreign language is the interference caused by the structural phonological or grammatical differences between the native language of the learner and the foreign language to be learned.

In fact, the student who sets out to learn the pronunciation of a foreign language will find some sounds, combinations of sounds, etc., of the language quite easy and others quite difficult. This is because he is so "imprisoned" within the sound structure of his own language that he can pronounce only the sounds in the language to be learned that exist also in his native language. It is a very difficult task for him to learn the new sounds. In the first place, this is a matter of habit: through years of practice, the student has built up a set of muscular habits which enable him to pronounce the sounds of his native language, but only these sounds. The muscular habits are so well formed that they exclude the possibility of producing other sounds than those found in the native language of the learner - Vietnamese in this case. In the second place, the students may be emotionally unable to pronounce new sounds, which strike him as being abnormal or even queer. Thus, even with the best intentions of producing English sounds, he just substitutes for English sounds the corresponding sounds of Vietnamese.

In order to correct these mispronunciations, it is necessary to identify the sound-substitutions which cause them. To arrive at the

discovery of how these substitutions come about, a point-by-point comparison of the sounds of English and of Vietnamese proves to be indispensable. When a sound exists in both languages, there is no teaching problem. A teaching problem arises when an English sound does not have a corresponding one in Vietnamese. In this case, it is necessary to proceed to the next step of the investigation, which is to find out how difficult the problem is, and also whether the mispronunciation is likely to cause misunderstanding or merely to result in a heavy foreign accent. The results of actual recognition or production tests presented in this study will answer the question of how difficult a pronunciation problem is by giving the percentage of mistakes. They also answer the question whether a problem is phonemic (i.e. one which results in a heavy accent) by stating the most common deviants for an English sound.

In the following chapters, a point-by-point comparative, or more exactly contrastive, analysis of the English and Vietnamese sound systems will be attempted, and presented in an arbitrary analytical order of consonants, consonant clusters, vowels, etc. In the preparation of a text-book of English pronunciation for Vietnamese speakers, however, it is necessary to adopt a philosophical approach to teaching problems in order to present them in a valid pedagogical sequence, following a hierarchy of difficulty. The philosophical approach will be discussed in the conclusion to this contrastive phonological analysis.

CORRIGENDUM

This replaces Chart XX, on page 139:

CHART XX

CONTRASTIVE CHART OF ENGLISH AND VIETNAMESE VOWELS

ENGLISH			VIETNAMESE			
FRONT	CENTRAL	BACK	FRONT	CENTRAL	BACK	
					Unrounded	Rounded
ɪ ɪ		u u	High	ɪ	ʊ	u
e ɛ	ə	o ɔ	Mid	e ɛ	â ã	ơ o ɔ
æ	a		Low			

3.2.5.2. *The problems*

Since there are no final consonant clusters in Vietnamese, and the Plural and Past Tenses are optionally indicated by separate morphemes, English morphophonemic features create great problems for Vietnamese students.

In general, students tend to omit the morphophonemic forms /s z əz t d əd/ altogether. These morphophonemic problems can be regrouped in Chart VIIIA on page 108 (see also Chart VIII, page 15).

Morphophonemic problems can be grouped according to the consonant prior to the morphophoneme in question in the following Chart VIIIA as:

The morpheme {Z} after:

- (a) Voiceless sounds, except Voiceless Sibilants;
- (b) Voiced sounds, except Voiced Sibilants;
- (c) Voiceless and Voiced Sibilants.

The morphophoneme {D} after:

- (a) Voiceless sounds, except /t/;
- (b) Voiced sounds, except /d/;
- (c) /t d/.

3.2.5.2.1. *Production problems of the morpheme {Z}*

3.2.5.2.1.1. *The morpheme {Z} after voiceless sounds except Sibilants*

1. *The clusters:*

After Voiceless sounds, except after Voiceless Sibilants, the morpheme {Z} is manifested by morphophoneme /s/ which forms with the Voiceless consonant prior to itself five kinds of consonant clusters, /ps ts ks fs θs/.³⁶

2. *The problems:*

Vietnamese students always elide the /s/ or mispronounce it. Since they tend also to mispronounce the fricative /fθ/ in the clusters /fs θs/, the problems are classified into two sub-groups: the sub-group Voiceless Stop + /s/, including /ps ts ks/, and the sub-group Voiceless fricative + /s/, including /fs θs/.

3. *Drills:*

Within each group the consonant clusters are graded for drills according to their number of consonants. Sample words for drills:

³⁶ Each kind of consonant cluster cited here and later causes difficulties of different degrees according to whether it occurs alone or as part of a three- or four-consonant cluster. For example, the cluster /ts/ appears in /ts sts ksts/, listed in their increasing order of difficulty.

Sub-group 1: Voiceless Stop + /s/:

1. /ps/	2. /ts/	3. /ks/
/ps/ <i>keeps</i>	/ts/ <i>beats</i>	/ks/ <i>kicks</i>
/mps/ <i>pumps</i>	/pts/ <i>crypts</i>	/ŋks/ <i>sinks</i>
/lps/ <i>helps</i>	/kts/ <i>facts</i>	/sks/ <i>risks</i>
/rps/ <i>warps</i>	/nts/ <i>paints</i>	/lks/ <i>silks</i>
	/rts/ <i>hearts</i>	/rks/ <i>barks</i>

Sub-group 2: Voiceless Fricative + /s/:

1. /fs/	2. /θs/
/fs/ <i>laughs</i>	/θs/ <i>breaths</i>
/lfs/ <i>gulfs</i>	/tθs/ <i>eighths</i>
/mfs~mpfs/ <i>nymphs</i>	/dθs/ <i>breadths</i>
/rfs/ <i>surfs</i>	/fθs/ <i>fifths</i>
	/lθs~ltθs/
	/nθs~ntθs/ <i>tenths</i>
	/rθs/ <i>hearths</i>
	/ndθs/ <i>thousandths</i>
	/ŋkθs/ <i>lengths</i>
	/lfθs/ <i>twelfths</i>
	/ksθs/ <i>sixths</i>

3.2.5.2.1.2. The morpheme {Z} after Voiced Sounds except Sibilants**1. The clusters:**

After voiced sounds, except Voiced Sibilants, the morpheme {Z} is manifested by the morphophoneme /z/ which fills the Simple Terminus slot after Vowels and which forms with the preceding Voiced Consonant ten kinds of consonant clusters, /bz dz gz vz ɔz lz mz nz ɳz rz/.

2. The problems:

Vietnamese students omit the /z/, especially after Consonants, or mispronounce it. Since they tend also to omit or mispronounce the voiced fricative, lateral, or semivowel prior to /z/, the problems are classified into two sub-groups: Sub-group 1 - Stop or Nasal + /z/, including /bz dz gz mz nz ɳz/; Sub-group 2 - Fricative, Lateral, or semivowel + /z/, including /vz ɔz lz rz/.

3. Drills:

The following sample words can be used for drills:

Sub-group 1:

1. /bz/	2. /dz/	3. /gz/
/bz/ <i>rubs</i>	/dz/ <i>reads</i>	/gz/ <i>rugs</i>

/lbz/	<i>bulbs</i>	/ldz/	<i>colds</i>	/rgz/	<i>icebergs</i>
/rbz/	<i>curbs</i>	/ndz/	<i>sounds</i>		
		/rdz/	<i>cards</i>		
4. /mz/		5. /nz/		6. /ŋz/	
/mz/	<i>rooms</i>	/nz/	<i>fans</i>	/ŋz/	<i>sings</i>
/lmz/	<i>films</i>	/lnz/	<i>kilns</i>		
/rmz/	<i>warms</i>	/rnz/	<i>warns</i>		

Sub-group 2:

1. /vz/	2. /ðz/	3. /lɪz/	4. /rɪz/
/vz/	<i>lives</i>	/ðz/	<i>breathes</i>
/lvz/	<i>shelves</i>	/lɪz/	<i>bills</i>
/rvz/	<i>carves</i>	/rɪz/	<i>girls</i>

3.2.5.2.1.3. The morpheme {Z} after Sibilants

1. Phonetic nature:

After Voiced and Voiceless Sibilants, the morpheme {Z} is manifested by /əz/.

2. The problems:

Vietnamese students are prone to leave off /əz/ in these cases. These are grammatical problems rather than pronunciation problems. But they must be drilled in the pronunciation class as well.

3. Drills:

The following words can be used for drills:

1. /ʧəz/	2. /səz/	3. /ʃəz/	4. /ʒəz/	5. /zəz/	6. /ʒəz/
<i>lunches</i>	<i>classes</i>	<i>wishes</i>	<i>judges</i>	<i>closes</i>	<i>rouges</i>

3.2.5.2.2. Production problems of the morpheme {D}

3.2.5.2.2.1. The morpheme {D} after Voiceless sounds except /t/

1. The clusters:

After Voiceless sounds, except /t/, the morpheme {D} is manifested by the morphophoneme /t/ which forms with the preceding Voiceless consonant six kinds of consonant clusters, /pt kt ʧt ft st ʃt/.

2. The problems:

Vietnamese students universally elide the morphophoneme /t/ or mispronounce it. Since they also tend to omit or mispronounce the affricate /ʧ/ or fricatives /s ʃ/ prior to /t/, the problems are classified into two sub-groups: the sub-group Stop + /t/, including /pt kt/; the sub-group Fricative or Affricate + /t/, including /ʧt ft st ʃt/.

3. Drills:

The following sample words can be used for drills:

1. /pt/		2. /kt/	
/pt/	<i>grouped</i>	/kt/	<i>kicked</i>
/spt/	<i>lisped</i>	/lkt/	<i>milked</i>
/lpt/	<i>helped</i>	/ŋkt/	<i>linked</i>
/mpt/	<i>jumped</i>	/rkt/	<i>worked</i>
/rpt/	<i>chirped</i>		

1. /čt/	2. /ft/	3. /st/	4. /št/
/čt/ <i>reached</i>	/ft/ <i>laughed</i>	/st/ <i>missed</i>	/št/ <i>fished</i>
/nčt/ <i>lunched</i>	/lft/ <i>golfed</i>	/pst/ <i>lapsed</i>	/št~čt/ <i>welched</i>
/rčt/ <i>searched</i>	/mft/ <i>triumphed</i>	/kst/ <i>mixed</i>	
	/rft/ <i>surfed</i>	/lst/ <i>pulsed</i>	
		/nst/ <i>fenced</i>	
		/rst/ <i>parsed</i>	

3.2.5.2.2.2. The morpheme {D} after Voiced Sounds except /d/

1. The clusters:

After Voiced sounds, except /d/, the morpheme {D} is manifested by the morphophoneme /d/, which fills the Single Terminus slot when preceded by a Vowel, and forms with the Voiced Consonant prior to itself twelve kinds of clusters, /bd gd ʝd vd ɔd zd ʒd ld md nd ŋd rd/.

2. The problems:

Vietnamese students consistently omit or mispronounce the morphophoneme /d/. Since they also tend to omit or mispronounce the affricate, fricative, lateral, or Semivowel prior to the morphophoneme, the problems can be classified into two sub-groups: Sub-group 1, including /bd gd md nd ŋd/; Sub-grouping 2, including /ʝd vd ɔd zd ʒd ld rd/.

3. Drills:

The following sample words can be used for drills:

Sub-group 1:

1. /bd/	2. /gd/	3. /md/	4. /nd/	5. /ŋd/
/bd/ <i>robbed</i>	/gd/ <i>tugged</i>	/md/ <i>combed</i>	/nd/ <i>banned</i>	/ŋd/ <i>hanged</i>
/lbd/ <i>bulbed</i>	/rgd/	/lmd/ <i>filmed</i>	/rnd/ <i>warned</i>	
/rbd/ <i>curbed</i>		/rmd/ <i>charmed</i>		

Sub-group 2:

1. /vd/	2. /ɔd/	3. /zd/	4. /ʒd/
/vd/ <i>lived</i>	/ɔd/ <i>breathed</i>	/zd/ <i>raised</i>	/ʒd/ <i>rouged</i>
/lvd/ <i>solved</i>		/nzd/ <i>lensed</i>	
/rvd/ <i>curved</i>		/rzd/ <i>furzed</i>	

5. /ʃd/	6. /ld/	7. /rd/
/ʃd/ <i>waged</i>	/ld/ <i>called</i>	/rd/ <i>roared</i>
/ɪʃd/ <i>bulged</i>	/rld/ <i>curled</i>	
/nʃd/ <i>changed</i>		
/rʃd/ <i>surged</i>		

3.2.5.2.2.3. The morpheme {D} after alveolar Stops /t d/

1. Phonemic nature:

After alveolar Stops /t d/, the morpheme {D} is manifested by /əd/.

2. The problems:

Vietnamese students usually omit /əd/ in these cases. These are grammatical problems rather than pronunciation problems, but they must be drilled in the pronunciation class as well.

3. Drills:

The following sample words can be used for drills:

1. /təd/	2. /dəd/
/təd/ <i>waited</i>	/dəd/ <i>loaded</i>
/ptəd/ <i>rypted</i>	/ldəd/ <i>welded</i>
/ktəd/ <i>acted</i>	/ndəd/ <i>landed</i>
/ftəd/ <i>lifted</i>	/rdəd/ <i>boarded</i>
/stəd/ <i>listed</i>	
/ltəd/ <i>melted</i>	
/ntəd/ <i>hunted</i>	
/rtəd/ <i>courted</i>	

3.2.6. Syllabication problems³⁷

1. The problems:

When a phrase, for example 'did it', phonemically /dɪdɪt/, is pronounced as one unit, as it is in normal speech, the final consonant of the first word tends to become the initial consonant of the second word when the second word begins with a vowel, that is /dɪ dɪt/.

2. Drills:

The following examples of Syllabication can be used for drills:

(a) Single final consonant in the first word:

'took it' /tʊk ɪt/ becomes /tʊ kɪt/

'keep it' /ki pɪt/ becomes /ki pɪt/

³⁷The term is taken from T. Navarro - Tomás and Aurelio M. Espinosa, *A Primer of Spanish Pronunciation*, Benjamin H. Sanborn and Company, New York, 1926, p.7ff and used by Robert Lado and Charles C. Fries, *English Pronunciation*, Ann Arbor, Michigan, p.143ff.

(b) Consonant cluster in the first word:

'*hunt it*' /hənt ɪt/ becomes /hən tɪt/
'*solve it*' /sɒlv ɪt/ becomes /sɒl vɪt/
'*tempt it*' /tempt ɪt/ becomes /temp tɪt/
'*glimpse at*' /glɪmps ət/ becomes /glɪmp sət/

Chapter 4

THE VOWELS OF ENGLISH

4.0. PHONEMIC CONTRASTS

English has fourteen vowels and diphthongs which can fill the Nucleus slot in a Syllable matrix:

1.	/i/	<i>beat</i>	<i>heal</i>	<i>leak</i>
2.	/ɪ/	<i>bit</i>	<i>hill</i>	<i>lick</i>
3.	/e/	<i>bait</i>	<i>hail</i>	<i>lake</i>
4.	/ɛ/	<i>bet</i>	<i>neck</i>	<i>den</i>
5.	/æ/	<i>bat</i>	<i>hat</i>	<i>lack</i>
6.	/ə/	<i>but</i>	<i>hull</i>	<i>luck</i>
7.	/a/	<i>bot</i>	<i>hot</i>	<i>lock</i>
8.	/u/	<i>boot</i>	<i>boon</i>	<i>Luke</i>
9.	/ʊ/	<i>put</i>	<i>hook</i>	<i>look</i>
10.	/o/	<i>boat</i>	<i>whole</i>	<i>bone</i>
11.	/ɔ/	<i>bought</i>	<i>hall</i>	<i>dawn</i>
12.	/aɪ/	<i>bite</i>	<i>height</i>	<i>light</i>
13.	/ɔɪ/	<i>boy</i>	<i>coin</i>	
14.	/aʊ/	<i>bout</i>	<i>howl</i>	<i>down</i>

4.1. THE FEATURE MODE

The identificational-contrastive features of vowels in English are the three relative positions, with two sub-divisions each, from high to low of the oral cavity and the three from front to back, according to the following chart:

CHART XV

ENGLISH VOWELS AND THEIR IDENTIFICATIONAL-CONTRASTIVE FEATURES

		FRONT	CENTRAL	BACK
HIGH	Closed	i		u
	Open	ɪ		ʊ
MID	Closed	e		o
	Open	ɛ	ə	
LOW	Closed	æ		ɔ
	Open		ɑ	

In the case of /æ ə ɔ/, the marked intersection of the sets of identificational-contrastive features of the three relative positions from front to back and the three relative positions from high to low delineates the phonemes. For example, /m/ is a low-front vowel. However, with respect to other marked intersections, there exists a further contrast between closed and open vowels. For these, two additional closed/open features are added. For example, /i/ is a closed high-front vowel, while /ɪ/ is an open high-front vowel.

Front vowels and central vowels are always unrounded, and back vowels are always rounded in English. Thus, the phonetic rounded/unrounded features are not identificational-contrastive features in English as they are in Vietnamese (cf. 5.1.).

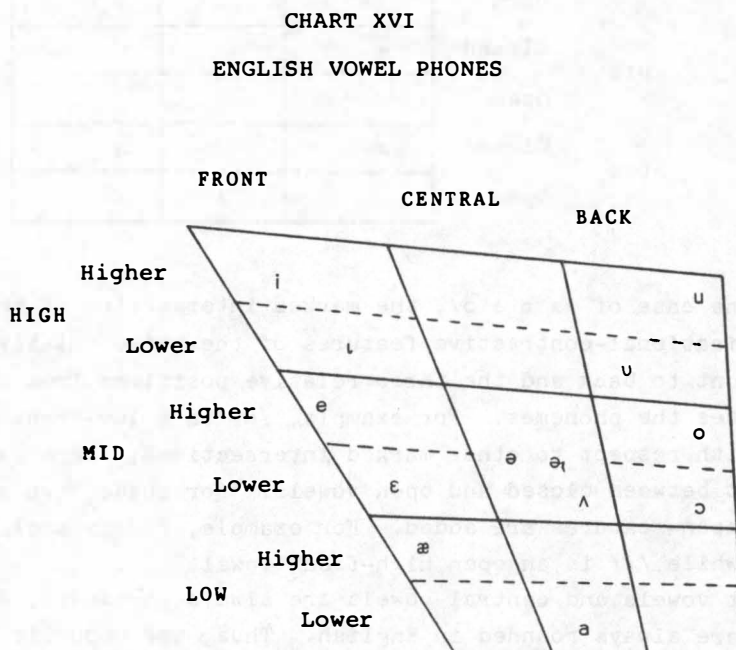
To complete the inventory of identificational-contrastive features of vocalic phonemes there should be added the emic [i u] glides for the three diphthongs /ai ɔi au/. They can be considered as identificational-contrastive features which are sequential. They form with [a] and [ɔ] three diphthongs, /ai ɔi au/. Later on, it will be seen that the front vowels /i e/ have also the etic [i] glide, and the back vowels /u o/ have similarly an etic [u] glide.

Chart XV also represents, besides the purely identificational-contrastive features involved in the vowel contrasts, two phonetic features, centralisation and decentralisation. The vowels /i e u o/ are represented as decentralised, and the vowels /ɪ ɛ ʊ/ as centralised. These two features, centralisation/decentralisation, will also be contrasted in Vietnamese. (See 1.1a., Comments on identificational-contrastive features, page 3.)

4.2. THE MANIFESTATION MODE

As was seen in 1.2., page 4, the manifestation made of a phoneme includes all its occurrences - its variants - which are the phones and allophones of the phoneme.

In terms of tongue position, English vowel phones can be shown as follows:



Each English vowel phoneme is manifested by one phone in terms of tongue position, except /ə/. The mid central vowel /ə/ is manifested by three phones, [ʌ ə ə̃]. The phone [ʌ] manifests the vowel in the nucleus slot of a stressed syllable, as in [bʌt], or ['ʌtə] 'utter'. The phone [ə] manifests the phoneme in unstressed syllables, as in /'sofə/ 'sofa'. The phone [ə̃] manifests the combination of /ə/+r/, i.e. is analysed phonemically as /ə/+r/, as in [bəd̃ ʃə̃t hə̃d] 'bird', 'shirt', 'heard'. It is a mid central retroflex sound, during the formation of which the tongue tip is turned up towards the alveolar ridge, as in the formation of [r]. It is defined also as a constricted vocoid.

Furthermore, according to the nature of what follows them, English vowel phonemes are manifested by different allophones as illustrated in Chart XVII, on page 117.

CHART XVII

ENGLISH VOWELS AND THEIR MOST COMMON ALLOPHONES

/i/ [iː i̯ iə]	/u/ [uː u̯ u]
/ɪ/ [ɪ ɪ̯ ɪə]	/ʊ/ [ʊ ʊ̯ ʊ]
/e/ [eɪ e eə]	/o/ [oʊ o]
	/ə/ [ʌ ʌ̯ ə ə]
/ɛ/ [ɛ ɛ̯ ɛə]	/ɔ/ [ɔ ɔ̯ ɔ]
/æ/ [æ ɶ̯ ɶə]	
	/ɑ/ [ɑ ɑ̯]

Allophones of English vowel phonemes can be regrouped according to their common allophonic features and environmental conditionings. Consequently, instead of describing each vowel phoneme and its allophones separately as in the case of Vietnamese vowels in the next chapter, we are going to discuss allophones of English vowels and diphthongs in groups according to their common allophonic features and environmental conditionings.

4.2.1. The binary phonetic decentralised/centralised features

Besides their binary identificational-contrastive features high/mid, close/open, stated in the feature mode of vowels, the five vowels /i e u o ɶ/ are relatively farther from the centre (are "decentralised") than the three vowels /ɪ ɛ ʊ/ which are relatively nearer (are "centralised"). The decentralised vowels are, furthermore, tense, and the centralised vowels are relatively lax.

TENSE & DECENTRALISED	LAX & CENTRALISED
/i/ in <i>feet</i>	/ɪ/ in <i>fit</i>
/e/ in <i>wait</i>	/ɛ/ in <i>wet</i>
/u/ in <i>shoed</i>	/ʊ/ in <i>should</i>
/o/ in <i>boat</i>	
/ɶ/ in <i>hat</i>	

4.2.2. The allophonic short/long features

The decentralised and tense vowels /i e u o ɶ/ tend to be slightly

longer than the centralised and lax vowels /ɪ ɛ ʊ/. However, far more important are the differences in duration which are conditioned by the nature of what follows the vowel. In general terms, stressed vowels are (1) short before voiceless consonants, (2) half-long before voiced consonants, and (3) long in word-final position.

EXAMPLES:

	SHORT	HALF-LONG	LONG
1	[li:f] <i>leaf</i>	[li:v] <i>leave</i>	[li:] <i>lee</i>
2	[rit] <i>writ</i>	[ri'd] <i>rid</i>	
3	[met] <i>mate</i>	[me'd] <i>made</i>	[me:] <i>may</i>
4	[set] <i>set</i>	[se'd] <i>said</i>	
5	[næp] <i>nap</i>	[næ'b] <i>nab</i>	
6	[bəs] <i>bus</i>	[bə'z] <i>buzz</i>	
7	[rat] <i>rot</i>	[ra'd] <i>rod</i>	[ra:] <i>ra</i>
8	[lus] <i>loose</i>	[lu'z] <i>lose</i>	[lu:] <i>loo</i>
9	[put] <i>put</i>	[pu'l] <i>pull</i>	
10	[rop] <i>rope</i>	[ro'b] <i>robe</i>	[ro:] <i>row</i>
11	[kɒt] <i>caught</i>	[kɒ'd] <i>cawed</i>	
12	[raɪt] <i>write</i>	[ra'id] <i>ride</i>	[ra:i] <i>rye</i>
13	[bɔɪs] <i>Boyce</i>	[bɔ'ɪz] <i>boys</i>	[bɔ:i] <i>boy</i>
14	[haus] <i>(a) house</i>	[ha'uz] <i>(to) house</i>	[ha:u] <i>how</i>

4.2.3. The binary monophthongal/diphthongal features

The phonetic transcriptions given in the preceding section fail to indicate the amount of diphthongisation which occurs especially when vowels are lengthened. Diphthongisation was considered as an identificational-contrastive feature in the diphthongs /aɪ ɔɪ au/. Besides that emic diphthongisation, there is also an etic one. In fact, /e/ and /o/ are phonetically speaking diphthongs in most environments, and /i/ and /u/ are phonetically speaking diphthongs in some environments. In broad terms, diphthongisation increases along two dimensions: first, along the dimension "high-mid-low", as we go from /i/ to /e/ to /aɪ/ (*meet, mate, might*), or from /u/ to /o/ to /au/ (*boot, boat, bout*); and second, along the dimension "short-half-long-long" as we go from [e] to [e'] to [e:] (*bate, bade, bay*), or from [o] to [o'] to [o:] (*wrote, road, roe*). The following table is a rough summary of different degrees of diphthongisation.

		SHORT	HALF-LONG	LONG
High	/i/	[bit] <i>beat</i>	[bi· ⁱ d] <i>bead</i>	[bi: ⁱ] <i>bee</i>
Mid	/e/	[be ⁱ t] <i>bate</i>	[be· ⁱ d] <i>bade</i>	[be: ⁱ] <i>bay</i>
Low	/ai/	[bait] <i>bite</i>	[ba·id] <i>bide</i>	[ba:i] <i>by</i>
High	/u/	[rut] <i>root</i>	[ru· ^u d] <i>rude</i>	[ru: ^u] <i>rue</i>
Mid	/o/	[ro ^u t] <i>wrote</i>	[ro· ^u d] <i>road</i>	[ro:u] <i>roe</i>
Low	/au/	[raut] <i>rout</i>	[ra·ud] <i>rowed</i> (<i>fought</i>)	[ra:u] <i>row (fight)</i>

Besides these described "upgliding" diphthongisations - that is, upward towards a higher (front or back) position - there are also "in-gliding" diphthongisations, that is, the glides are inward towards a mid central position.

This latter type of diphthong is especially noticeable after front vowels before the velarised [ɹ]:

/i/	[i ^ə]	as in [si ^ə t]	<i>seal</i>
/ɪ/	[ɪ ^ə]	as in [sɪ ^ə t]	<i>sill</i>
/e/	[eɪ ^ə]	as in [seɪ ^ə t]	<i>sale</i>
/ɛ/	[ɛ ^ə]	as in [sɛ ^ə t]	<i>sell</i>
/æ/	[æ ^ə]	as in [sæ ^ə t]	<i>sal</i>

4.3. THE DISTRIBUTION MODE

Vowels and diphthongs constitute the emic class of phonemes which fill the Nucleus slot in a syllable in English. Five subdivisions of the emic class are recognised here.

4.3.1. The subclass of free and checked stressed vowels and diphthongs

According to whether vowels and diphthongs, when they are stressed, can occur only before consonants (in a "checked position"), or can also occur at the end of a word, they are classified respectively as members of the subclass of free vowels and diphthongs, or the subclass of checked vowels (see table on page 120).

The subclass of free vowels and diphthongs includes nine members, and the subclass of checked vowels includes six members.

The vowel /a/ is classified as a free vowel, with parentheses, because there are only a few English words with a final /a/: *ah; hah; la; bah; ma; pa; etc.*

FREE			CHECKED		
/i/	/bi/	bee	/ɪ/	/bɪt/	bit
/e/	/be/	bay	/ɛ/	/bɛt/	bet
/a/	(/ma/	ma)	/æ/	/bæt/	bat
/u/	/bu/	boo	/ɑ/	/bat/	bot
/o/	/bo/	bow (arrow)	/ə/	/bət/	but
/ɔ/	/bɔ/	baw	/ʊ/	/put/	put
/ai/	/bai/	buy			
/oi/	/boi/	boy			
/au/	/bau/	bow			

4.3.2. The subclass of stressed vowels before /r/

Within the r-ful dialects in the United States, apart from some dialects of the Atlantic seaboard, many standard dialects have only six vowel phonemes before /r/ in a stressed syllable, including the central vowel /ə/ in the constricted vocoid [ə̣].

Since the matter is more of a dialect geography study and of a contrastive analysis of two languages for pedagogical purposes³⁸, it need not and cannot be considered in great detail here - both as regards the vowels which contrast with one another before /r/, and as regards the allophones which they show in this position. It can be summarised as: in many standard dialects of American English, the four vowel contrasts - /i/ vs /ɪ/, /e/ vs /ɛ/ vs /æ/, /u/ vs /ʊ/, and /o/ vs /ɔ/ - are lost or neutralised,³⁹ before intervocalic or final /r/ (the tense/lax contrast of these sets of phonemes no longer exists) to form four archiphonemes,⁴⁰ or fused phonemes, respectively /I E U O/.

The following formula (page 121) sets out the patterning of these losses (see also footnote 4, on page 4):

³⁸For further detail, see Hans Kurath and Raven I. McDavid Jr., *The pronunciation of English in the Atlantic States* (Ann Arbor: University of Michigan Press, 1961) or, for a survey of American English dialects, see Raven I. McDavid Jr., "American English dialects" in W. Nelson Francis, *The Structure of American English*, pp.480-543.

³⁹N.S. Troubetzkoy, *Principes de Phonologie* (French translation by J. Courtineau), Paris, 1957, p.80.

⁴⁰N.S. Troubetzkoy, op.cit., p.81.

$$\left\{ \begin{array}{l} \left\{ \begin{array}{l} /i/ \\ /ɪ/ \end{array} \right\} \rightarrow /ɪ/ \\ \left\{ \begin{array}{l} /e/ \\ /ɛ/ \\ /æ/ \end{array} \right\} \rightarrow /E/ \\ \left\{ \begin{array}{l} /u/ \\ /ʊ/ \end{array} \right\} \rightarrow /U/ \\ \left\{ \begin{array}{l} /o/ \\ /ɔ/ \end{array} \right\} \rightarrow /O/ \end{array} \right\} \text{ in environment - /r/}$$

/a/, /ə/, /au/, /ai/ all remain before /r/, and /ɔi/ does not occur at all before /r/ in the same syllable. Thus, not counting the diphthongs /au/ and /ai/, many American English dialects have before intervocalic and postvocalic /r/ a minimum of six vowel contrasts as in the following words:

/ɪ/	/E/	/ə/[ə]	/a/	/U/	/O/
<i>beer</i>	<i>bare</i>	<i>her</i>	<i>bar</i>	<i>boor</i>	<i>bore</i>
<i>fear</i>	<i>fare</i>	<i>fur</i>	<i>far</i>	<i>tour</i>	<i>four</i>
<i>dear</i>	<i>dare</i>	<i>Sir</i>	<i>car</i>	<i>sure</i>	<i>core</i>

Phonetically, the phones of the four archiphonemes vary as do all English vowels in other environments, but they are always lax:

/ɪ/	[ɪ] or [ɪ̞] in <i>beer</i> ; <i>dearer</i>
/E/	[ɛ] or [ɛ̞] in <i>bare</i> ; <i>carry</i>
/U/	[ʊ] or [ʊ̞] in <i>boor</i> ; <i>tourist</i>
/O/	[ɔ] or [ɔ̞] in <i>bore</i> , <i>boring</i>

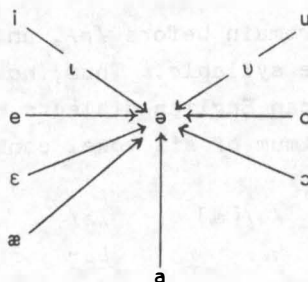
4.3.3. The subclass of unstressed vowels

In word-final unstressed syllables, English has six contrastive vowels (excluding diphthongs /ai, ɔi, au/ as in 'Magi', 'cowboy', and 'eyebrow'). One of them occurs only in checked syllables:

FREE			CHECKED	
/i/	/'stædi/	<i>study</i>	/'stædiz/	<i>studies</i>
/ɪ/			/'vælɪd/	<i>valid</i>
/e/	/'sændə/	<i>Sunday</i>	/'sændez/	<i>Sundays</i>
/ə/	/'vɪstə/	<i>vista</i>	/'vɪstəz/	<i>vistas</i>
/u/	/'ɪʃu/	<i>issue</i>	/'ɪʃuz/	<i>issues</i>
/o/	/'eko/	<i>echo</i>	/'ekoz/	<i>echoes</i>

The unstressed vowels of 'study', 'Sunday', 'issue', 'echo', are /i e u o/, and, as when they are stressed, they can occur both in free and checked syllables. The unstressed vowel of 'valid', however, is /ɪ/; and whether stressed or not, it can occur only in checked syllables.

In unstressed syllables other than those at the end of a word, probably all the eleven vowels can occur in careful speech. In informal speech, however, American English tends to use in non-final stressed syllables only the mid-central /ə/ vowel. The two vowels /ɪ/ and /ʊ/ are sometimes used too. Consequently, the various vowel contrasts of stressed position are here all neutralised in the single mid-central unstressed /ə/ vowel:



The following forms, in which the various contrastive vowels of stressed syllables are all replaced by the central vowel /ə/ when the stress shifts to the following syllable, exemplify this neutralisation in the central vowel:

STRESSED	UNSTRESSED
/i/ /'ritelz/ <i>retails</i> /e/ /'stebəl/ <i>stable</i> /ɛ/ /'dɛmə,kɾət/ <i>democrat</i> /æ/ /'ædɾes/ <i>address</i> /a/ /'kanvɪkt/ <i>convict</i> /ɔ/ /'ɔθər/ <i>author</i> /o/ /prə'poz/ <i>propose</i> /u/ /'ʃjunit/ <i>unit</i>	/i/ /rɪ'telz/ <i>retails</i> or /ɪ/ /rɪ'telz/ <i>retails</i> or /ə/ /rə'telz/ <i>retails</i> /ə/ /stə'bɪləti/ <i>stability</i> /ə/ /də'makɾəsi/ <i>democracy</i> /ə/ /ə'dɾes/ <i>address</i> /ə/ /kən'vɪkt/ <i>convict</i> /ə/ /ə'θərəti/ <i>authority</i> /ə/ /prəpə'zɪʃən/ <i>proposition</i> /ʊ/ /ju'nait/ <i>unite</i> or /ə/ /jə'nait/

The replacement of stressed vowels by unstressed /ə/ takes place only before consonants. When a vowel follows, the vowel of unstressed position remains the same as it was in stressed position.

STRESSED			UNSTRESSED		
/i/	/'ri:əl/	<i>real</i>	/i/	/ri'ælati/	<i>reality</i>
/o/	/'po:ət/	<i>poet</i>	/o/	/po'etɪk/	<i>poetic</i>
/u/	/'du:əl/	<i>dual</i>	/u/	/du'ælati/	<i>duality</i>

English also has a few monosyllabic function words which have phonemically different stressed and unstressed forms. The unstressed forms have /ə/ and the stressed forms have other fully contrastive vowels:

STRESSED			UNSTRESSED		
/i/	/'ði/	<i>the</i>	/ə/	/ðə'mæn/	<i>the man</i>
/e/	/'e/	<i>a</i>	/ə/	/ə'mæn/	<i>a man</i>
/æ/	/'æn/	<i>an</i>	/ə/	/ən'eko/	<i>an echo</i>
/æ/	/'ænd/	<i>and</i>	/ə/	/'ʃan ən 'helən/	<i>John and Helen</i>
/æ/	/'hæv/	<i>have</i>	/ə/	/'ʃud əv 'kəm/	<i>should have come</i>
/æ/	/'kæn/	<i>can</i>	/ə/	/kən'go/	<i>can go</i>
/ɛ/	/'ðem/	<i>them</i>	/ə/	/'tel əm/	<i>tell them</i>
/u/	/'tu/	<i>to</i>	/ə/	/tə'go/	<i>to go</i>
/u/	/'du/	<i>do</i>	/ə/	/'hwɛr də ðə go/	<i>where do they go?</i>
/u/	/'yu/	<i>you</i>	/ə/	/'hwɛn də jə go/	<i>when do you go?</i>
/ə/	/'ar/	<i>are</i>	/ə/	/ðə bɔɪz ər 'goɪŋ/	<i>the boys are going</i>

However, if a vowel follows, the unstressed vowel of the monosyllabic function word usually remains the same as it was in stressed position:

STRESSED			UNSTRESSED		
/i/	/'ði/	<i>the</i>	/i/	/ði'ep/	<i>the ape</i>
/u/	/'tu/	<i>to</i>	/u/	/tu 'it/	<i>to eat</i>
/u/	/'ju/	<i>you</i>	/u/	/ju 'it/	<i>you eat</i>
/u/	/'du/	<i>do</i>	/u/	/du aɪ 'go/	<i>do I go?</i>

In the above analysis, /ə/ seems to be the only unstressed vowel in English. Nevertheless, many speakers of American English use /ɪ/ rather

than /ə/ in final unstressed syllables before /ʃ/, /ʒ/, /j/, and /ŋ/ as in /'vænɪʃ/ 'vanish', /'sændwɪʃ/ 'sandwich', /'rɛkɪʃ/ 'wreckage', and /'sɛndɪŋ/ 'sending'. Thus, the students will have to learn to use /ɪ/ in unstressed position before /ʃ ʒ j ŋ/ instead of /ə/. Before other consonants, there is a free variation between /ə/ and /ɪ/. Moulton⁴¹ cites the following free variations: 'olive' may be /'aləv/ or /'alɪv/; 'Philip' may be /'fɪləp/ or /'fɪlɪp/; 'stomach' may be /'stəmək/ or /'stəmɪk/, etc. He says that "...this sort of variation also occurs in non-final unstressed syllables: *animal* may be /'ænəmə/ or /'æɪnəmə/; *pitiful* may be /'pɪtəfəl/ or /'pɪtɪfəl/; *citizen* may be either /'sɪtəzən/ or /'sɪtɪzən/, etc. Some speakers have clear minimal contrasts between /ə/ and /ɪ/: /'rɛʃəz/ *Russia's* vs /'rɛʃɪz/ *rushes*; /'rozəz/ *Rosa's* vs /'rozɪz/ *Rose's*." But other speakers have no such minimal contrasts and hence no clear opposition between /ə/ and /ɪ/. Since /ɪ/ and /ə/ are in free variation in these situations, the students will have to learn to use only one of the two vowels, preferably /ə/.

4.4. TRANSCRIPTIONAL SYSTEMS

There are different transcriptional systems which are in use for the vowel phonemes of American English, partially due to the fact that there is no one standard variety of American English whose vowel system can be described as the only norm for non-native speakers to follow when they learn English pronunciation. There are, instead, many different geographical standards, and each is quite acceptable in its own way; even if one particular standard dialect is chosen, its vowel system can be analysed from two rather different phonemic points of view.

Since for the purpose of a contrastive analysis of English and Vietnamese vowel systems, a choice must be made among different analyses and transcriptions of American vowels, a schematic description of those in widest use must be presented here before the reasons for choosing the one used herein can emerge. In order to do so, first, a list of words which illustrates vowel phonemic contrasts of Standard Midwest American English is given, and then the various analyses and transcriptions which have been used for them (starting with the ones which are most remote from the chosen transcription) will be shown. The list of phonemic contrasts appears on the following page.

In the following presentation of different analyses and transcriptional systems, theoretical phonemic implications will not be discussed

⁴¹ William G. Moulton, *The Sounds of English and German*; Chicago: The University of Chicago Press, 1962, p.85.

at length, just as they were not considered as primary reasons when making the choice of the particular system adopted, but practical pedagogical implications will be discussed, since they were the major factors considered when the choice was made.

STRESSED				UNSTRESSED
<i>beat</i>		<i>boot</i>		(rubber (sof)a
<i>bit</i>		<i>put</i>		
<i>bait</i>	<i>bird</i>	<i>boat</i>		
<i>bet</i>	<i>but</i>			
<i>bat</i>		<i>bought</i>		
	<i>bot</i>			
	<i>buy</i>	<i>boy</i>	<i>bough</i>	

The first analysis and transcriptional system to be discussed is the "nine vowel" system. This analysis of English vowels was first presented in full detail by George L. Trager and Henri Lee Smith Jr. in *An Outline of English Structure* ("Studies in Linguistics, Occasional Papers", No.3, Norman, Oklahoma, 1951). In this analysis, there are nine vowels:

	Front	Central	Back
High	i	ɨ	u
Mid	e	ə	o
Low	æ	a	ɔ

The allophones of these nine vowel phonemes, either by themselves or in combination with the semivowels /r w j h/, make up the syllabic nuclei of most of the dialects of American English.

Using this "nine vowel" system, our original list of seventeen words can be transcribed as follows:

STRESSED				UNSTRESSED
<i>biyt</i>		<i>buwt</i>		'reber 'sowfa
<i>bit</i>		<i>put</i>		
<i>beyt</i>	<i>bərd</i>	<i>bowt</i>		
<i>bet</i>	<i>bət</i>			
<i>bæt</i>		<i>bɔh</i>		
	<i>bat</i>			
	<i>bay</i>	<i>boy</i>	<i>baw</i>	

Thus, in this analysis, the difference between close vocoids [i e u o] and open vocoids [ɪ ɛ ʊ ɔ] is phonemically represented as presence of a semi-vowel /y/ and /w/ versus absence of it. Thus the vocoids [i e u o] are phonemically /iy ey uw ow/, and [ɪ ɛ ʊ ɔ] are /i e u o/.

For the following practical reasons, this "overall pattern" analysis is not chosen:

(1) The identificational-contrastive features distinguishing the vowels in the pairs *beat* vs *bit*, *bait* vs *bat*, *pool* vs *pull*, or *shoed* vs *should* are the close/open tongue position features rather than the diphthongal/monophthongal features. They are the features that the students should learn in order to recognise the sounds on the recognition level. So, they should be represented phonemically, as they are in the phonemic representation used herein, and they are not in the "overall pattern" system.

(2) The diphthongal/monophthongal features are allophonic features. The degree of diphthongisation of close vowels varies according to whether they are followed by voiceless consonants, voiced consonants, or they are free. Consequently, they should be learned only on the production level; and by correlation, they should not be represented on the phonemic level as they are in the "overall system".

(3) In Vietnamese, there are no final consonants after a semivowel /w/ or /j/ (same as /y/ in the Trager-Smith system). So the analysis of the vowels in *beat*, *bait*, *boot*, *boat*, *buy*, *boy*, *bough* as vowel + semivowel will hinder teaching Vietnamese students the English combinations of these vowels or diphthongs plus final consonants.

The transcriptional system for the vowels of American English of the Kenyon and Knott *Pronouncing Dictionary of American English* (Springfield, Mass. 1953) is perhaps the most widely used. It uses the following symbols:

STRESSED					UNSTRESSED
i				u	
ɪ				ʊ	
e	ə	ɜ		o	ə
ɛ		ʌ			ə
æ				ɔ	
a					
		aɪ	ɔɪ	au	

An adaptation of this system (phonemicising it more by regrouping stressed [ə, ɜ] and unstressed [ə] into only one phoneme /ɜ/) to the speech of the Atlantic Seaboard is given in Kurath and McDavid, *The Pronunciation of English in the Atlantic States* (Ann Arbor: University of Michigan Press, 1961). It is also adopted by Moulton for his contrastive German-English phonological analysis. It is as follows:

STRESSED				UNSTRESSED
i			u	ə
ɪ			ʊ	
e	ɜ		o	
ɛ		ʌ		
æ			ɔ	
	a			
		ai	ɔi	
			au	

A more simple analysis, reducing [ʌ], [ɜ], and unstressed [ə] into one phoneme, /ə/ (while [ɜ] is analysed phonemically as /ə/ plus /r/) is given by Kenneth L. Pike *Phonemics* (Ann Arbor: University of Michigan Press, 1947) and used in Lado and Fries *English Pronunciation* (Ann Arbor: University of Michigan Press, 1954). This is the system used in this paper. It shows the following phonemic system:

STRESSED				UNSTRESSED
i			u	
ɪ			ʊ	
e	ə		o	
ɛ				
æ			ɔ	
	a			
		ai	ɔi	
			au	

In this paper there is a difference only in the choice of symbols: /i u/ instead of /ɪ ʊ/ in the diphthongs /ai au ɔi/.

This analysis is adopted for two practical reasons. The first reason is that it can show all the teaching and learning problems of English vowels while at the same time it reduces vowel phonemes to a minimum number. The three different allophones of /ə/ can be learned

as positional variants of a phoneme on the production level. So, it is superfluous to present them as three phonemic contrasts to be learned both on the recognition and the production levels. The second reason is that the diphthongs in English are transcribed here as vowel complexes /ai ɔi au/ while the phonetically similar diphthongs in Vietnamese are transcribed as vowels plus semivowels /aj ɔj aw/. The different transcriptions of English and Vietnamese diphthongs permit the teacher to explain that in English, the diphthongs can be followed by final consonants, while in Vietnamese they cannot.

The author in his book, *English Pronunciation for Vietnamese* (SEAREP-USOM, Saigon, 1962), has attempted to explain the phonemic contrasts between the pairs *beat* vs *bit*, *bait* vs *bet*, and *shoed* vs *should* both by the higher/lower tongue position features and the monophthongal/diphthongal features by using the following system:

STRESSED		UNSTRESSED
iy	uw	
i	u	
ey	ə	ow
ɛ		
æ	ɔ	
a		
ay	ɔy	aw

For the theoretical reason that the system is neither phonetic nor phonemic, and for the practical reason that the use of semivowels has confused the students and complicated the learning problems of final consonants, the transcriptional system will be revised in future editions of the book.

Chapter 5

THE VOWELS OF VIETNAMESE

5.0. PHONEMIC CONTRASTS

Vietnamese has fifteen vowels and diphthongs which can fill the nucleus slot in a syllable matrix:

1.	/i/	/li/	ly	<i>glass</i>
2.	/e/	/le/	lê	<i>peach</i>
3.	/ɛ/	/lɛ/	lê	<i>wild duck</i>
4.	/a/	/la/	la	<i>shout</i>
5.	/ɯ/	/lɯ/	lư	<i>incense pot</i>
6.	/ɔ/	/lɔ/	lơ	<i>indifference</i>
7.	/u/	/lu/	lu	<i>jar</i>
8.	/o/	/lo/	lô	<i>lot</i>
9.	/ɔ/	/lɔ/	lo	<i>worry</i>
10.	/à/	/làn/	lăn	<i>unicorn</i>
11.	/ã/	/lăn/	lăn	<i>roll</i>
12.	/ău/	/lăn/	long	<i>dragon</i>
13.	/iə/	/liə/	lia	<i>quick</i>
14.	/ɯə/	/lɯə/	lwa	<i>exceed</i>
15.	/uə/	/luə/	lua	<i>absorb</i>

5.1. THE FEATURE MODE

The identificational-contrastive features of vowels in Vietnamese are the three relative positions from high to low, the three relative positions from front to back, and the two rounded/unrounded features, as in the following chart:

CHART XVIII

VIETNAMESE VOWELS AND THEIR IDENTIFICATIONAL-CONTRASTIVE FEATURES

		FRONT	CENTRAL	BACK
				Unrounded Rounded
HIGH		i		ɯ
	Close	e		o
MID		ɛ	ä	
	Open		ã	ɔ
LOW			a	
	Close			
	Open			

The rounded/unrounded features may be viewed as being in a third dimension intersecting the plane of the chart of regular tongue positions at a perpendicular angle.

To complete the inventory of identificational-contrastive features of vocalic phonemes, there should be added the emic [u ə] glides. They can be considered as identificational-contrastive features which are sequential. The glide [u] forms with [ä] the diphthong /äu/, and the glide [ə] forms with [i ɯ u] three diphthongs, /iə ɯə uə/.

For the sake of a consistent distributional pattern, the same phonetic glides [u] and [i] will be considered in combinations with /a ɔ/ as consonantal, because they cannot be followed by a consonant.

5.2. THE MANIFESTATION MODE

In terms of tongue position and lip rounding or unrounding, Vietnamese vowel phones can be shown as in the chart on the page opposite.⁴²

Besides the fact that each vowel phoneme in Vietnamese is manifested by more than one phone as determined by tongue position, there are two other kinds of allophonic variations - relative length and homorganic diphthongisation - which are predictable.

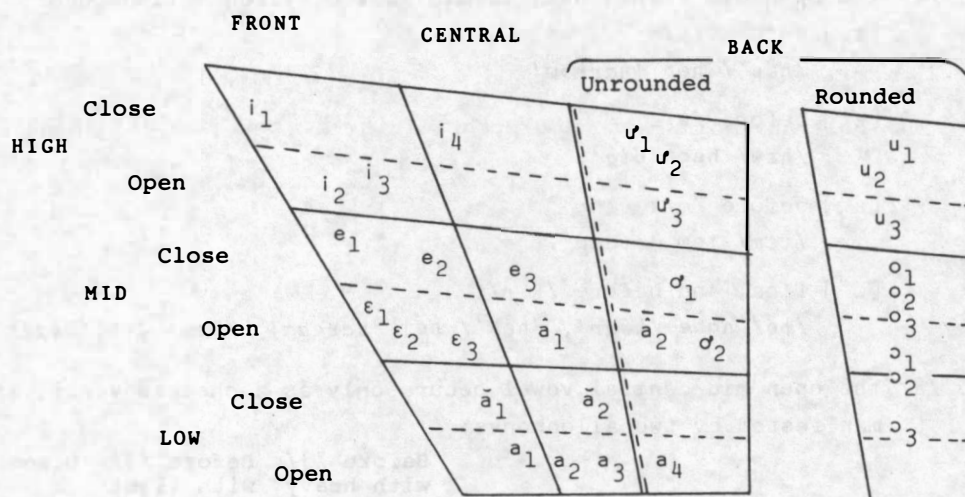
(a) Relative length: The relative length of vowel allophones is predictable with respect to tones and the nature of what follows the vowel. With respect to tones, vowels are (1) short with high tones; (2) half-long with low tones; and (3) long with mid tones. With respect to the

⁴²The analysis of vowel allophones is adapted from Laurence C. Thompson "Saigon Phonemics", *Language* vol. 35, No.3, July-September 1959, pp. 454-76, with some readaptions and minor modifications.

nature of what follows, they are (1) short when followed by final stops; (2) half-long when followed by semivowels /j w/, or nasals /n ŋ/; and (3) long when they are free.

(b) Homorganic diphthongisation. The vowels /i e ʊ σ u o/ are diphthongised when they are free. Thus the words /li le lʊ lu lo/ ly, lê, lʊ, lu, lô, for example, would be phonetically [liⁱ le^e lʊ^ʊ lu^u lo^u].

CHART XIX
VIETNAMESE VOWEL PHONES⁴³



The description of the vowels and their allophones are as follows:

1. /i/ the high front vowel is manifested by four allophones:

[i₁] after /c j n/, final and before /p w m/:

/jip/ dip 'occasion', /cim/ chim 'bird',

/niw/ nhiều 'many', /ci/ chi 'what', /pi/ nhi 'infant'.

[i₂] after /c j n/, before /t n/:

/jin/ dinh 'residence', /pin/ nhin 'look',

/cin/ chín 'nine'.

[i₃] except after /c j n/ final and before /p w m/:

/lim/ lêm 'honesty', /niw/ niu 'hold',

/típ/ tiếp 'continue', /pi/ nghi 'doubt'.

⁴³ The symbols ʊ σ are taken from the Vietnamese spelling; likewise â and ã are also taken from it.

[i₄] except after /c j n/, before /t n/:
/tin/ tin 'news', /t̚it'/ trích 'extract'.

2. /e/ the close mid-front vowel is manifested by three allophones:

[e₁] before /p w/, and final:
/bep'/ bếp 'kitchen', /new'/ nếu 'if', /de/ dê 'dam'.

[e₂] before /m/:
/em/ êm 'comfortable, soft'.

[e₃] before /t n/:
/ten/ tên 'name', /tet'/ tết 'Vietnamese New Year'.

3. /ɛ/ the open mid front vowel is manifested by four allophones:

[ɛ₁] before /p/:
/hɛp'/ hẹp 'narrow'.

[ɛ₂] before /w/:
/hɛw/ heo 'pig'.

[ɛ₃] before /m/:
/tɛm/ tem 'stamp'.

[ɛ^ə] final and before /k n/:
/ɲɛ/ nghe 'hear', /hɛk'/ hét 'scream', /dɛn/ đen 'black'.

4. /â/ the open mid-central vowel occurs only as a checked vowel, and is manifested by two allophones:

	Before /j/ with heavy stresses	Before /j/ with light stresses	Elsewhere
After /b f w m c j l n x g ŋ/	[â ₁]	[â ₁]	[â ₂]
After /t s t ^h d t̚ ʃ r n k h/	[â ₂]		

[â₁]
/'bâj/ bày 'herd', /'fâj~/ phây 'comma', /'kwâj/ quấy 'dis-
turb', /'mâj/ mây 'cloud', /'caj/ chây 'late', /'jâj/ dây
'string', /'lâj/ lây 'contaminate', /'nâj/ nhây 'viscous',
/'xâj~/ khây 'excite', /gâj/ gây 'have arguments', /'nâj/
ngây 'naive'.

[â₂]
/'tâj/ tây 'west', /'sâj/ xây 'build', /'thâj/ thây 'corpse',
/'dâj/ đây 'here', /'tâj'/ trây 'scratched', /'ʃâj/ sẩy
'dry (on a fire)', /'râj'/ rây 'reprimand', /nâj/ này
'here', /'kâj/ cây 'tree', /'hâj/ hay 'interesting', /'tâp'/
tập 'practice', /lâm/ lâm 'forest', /ʃân/ sân 'ground
(empty space)'.

5. /ă/ the close low central vowel. Like /â/ above, the vowel can occur only as a checked vowel, and is manifested by two allophones:

[ă₁] before /k ɲ/:

/ăk'/ắt 'certainly', /ăɲ/ ăn 'eat'.

[ă₂] before /p w m t n/:

/ăp'/ấp 'hamlet', /hăw'/hầu 'in order to', /ăm/ âm 'sound', /măt'/mách 'indicate', /ăn/ anh 'brother'.

6. /a/ the open low central vowel is manifested by four allophones:

	After /t ^h c j ɲ h/	Elsewhere
Before /p k/	[a ₁]	[s ₂]
Final and before /w j y/	[a ₂]	[a ₃]
Before /m/	[a ₃]	[a ₄]

[a₁]

/t^hat'/thác 'waterfall', /cat'/chát 'green (fruit)',
/ap'/áp 'oppress', /hak'/hắt 'sing', /hap'/hạp 'suitable'.

[a₂]

/t^ha/ tha 'forgive', /caw'/cháu 'niece', /t^han/ than
'charcoal', /t^haj/ thay 'change'.

[a₃]

/ham/ ham 'like', /t^ham/ tham 'greedy', /cam^v/chạm 'sculp'.

[a₄]

/kam/ cam 'orange', /ɲan/ ngang 'width'.

7. /ɯ/ the high back unrounded vowel is manifested by three allophones:

[ɯ₁] after /c j ɲ/, before /k ɲ/:

/ɲɯɲ/ nhưng 'but', /jɯk'/dứt 'end', /cɯɲ'/chứng 'witness'.

[ɯ₂] after /c j ɲ/, before /j/, after other consonants, except

/c j ɲ/ or initially before /p m k ɲ/:

/jɯj'/dưới 'underneath', /ɲɯj~/người 'smell', /kɯp'/cướp
'rob', /bɯm'/bướm 'butterfly', /ɬɯk'/sức 'strength',
/mɯɲ'/mừng 'glad'.

[ɯ₃] after all consonants except /c j ɲ/ or initially before

/w j/ and finally.

/tɯj/ tươi 'fresh', /tuw^v/tụu 'meet', /ɲɯj~/người 'human',
/tɯ/ tơ 'silk'.

8. /ɔ/ the mid back unrounded vowel is manifested by two allophones:

[ɔ₁] before /p m k ɲ/:

/lɔp'/ lớp 'class', /t^hɔm/ thơm 'pineapple', /hɔk'/ hớt 'cut', /hɔŋ/ hơn 'more'.

[ɔ₂] final and before /j/:
/tɔ/ tơ 'silk', /cɔj/ chơi 'play'.

9. /u/ the high back rounded vowel is manifested by three allophones:

[u₁] before /j/:
/luj/ lui 'return'.

[u₂] final and before /p m/:
/ɣup'/ súp 'fall down', /num'/ nấm 'mushroom'.

[u₃] before /k ɲ/:
/luk'/ lúc 'when', /kuŋ/ cùng 'respect'.

10. /o/ the mid back rounded vowel is manifested by three allophones:

[o₁] before /ŋ/:
/xɔŋ/ khôn 'intelligent'.

[o₂] final and before /m j k/:
/ŋo/ ngô 'corn', /tom/ tôm 'shrimp', /dɔk'/ đốt 'burn'.

[o₃] before /p/:
/hɔp'/ hộp 'box'.

11. /ɔ/ the close back rounded vowel is manifested by three allophones:

[ɔ₁] before /j n/:
/vɔj/ voi 'elephant', /ŋɔŋ/ ngon 'good (to eat)'.

[ɔ₂] before /k/:
/jɔk'/ giọt 'a drop'.

[ɔ₃] before /p m/ and final:
/tɔ/ to 'big', /gɔp'/ gộp 'gather', /bɔm/ bom 'bomb'.

Before we leave the subject of the manifestation made of vowels and diphthongs, a few words need to be said about the phones of the diphthongs /ău iə ʊə uə/.

12. /ău/, phonetically [ă^u], occurs only before /k ɲ/:
/hăuk'/ học 'study', /ăuŋ/ ông 'grand-father'.

13. /iə/, phonetically [i^ə], occurs finally and before /k ɲ/:
/ciə/ chia 'divide', /ciəŋ/ chiêm 'fry', /tiək'/ tiếc 'regret'.

14. /ʊə/, phonetically [ʊ^ə], occurs finally and before /k ɲ/:
/cʊə/ chưa 'not yet', /cʊəŋ/ chương 'chapter', /dʊək'/ được 'possible'.

15. /uə/, phonetically [u₂^ə], occurs finally and before /k ɲ/:

/muə/ mua 'buy', /cuəŋ/ chuông 'bell', /t^huək'/ thuốc 'medicine'.

5.3. THE DISTRIBUTION MODE

Vowels and diphthongs constitute the emic class of phonemes that fill the Nucleus slot in a syllable in Vietnamese. Before discussing the distribution mode of vowels and diphthongs, it is useful to see the canonical⁴⁴ forms of Vietnamese syllables.

The structure formula describing all possible Vietnamese syllables is:

$$\pm O [+ C \pm w] + N [V] \pm T \begin{pmatrix} C \\ S \end{pmatrix}$$

The formula reads:

A phonemic syllable in Vietnamese is composed of:

- (1) An optional satellite Onset slot filled by an obligatory nucleus Consonant and an optional satellite Semivowel /w/. (For alloclass of simple initial consonants, and the alloclass of initial consonants clustering with /w/, see 2.3.1. and 2.3.3., page 24.)
- (2) An obligatory Nucleus slot filled by a Vowel, which can be a vowel or a diphthong.
- (3) An optional satellite Terminus slot filled by a composite filler class including two alternate distribution-subclasses: Consonant; Semivowel.

The alternate distribution-subclass Consonant includes six members: /p t k m n ŋ/. The alternate distribution-subclass Semivowel includes two members: /j w/.

Thus, the distribution mode of vowels and diphthongs is best discussed by giving the following distributional chart (on page 136). The Onset slot is irrelevant here, for a large number of the syllable nuclei occur with each initial consonant described in 2.3.1., since "For the most part non-occurrences are the result of accident - that is, no words with these particular shapes happen to occur, although there is no pattern which would suggest that they are not possible sequences".⁴⁵

⁴⁴ Charles F. Hockett defines a canonical form as "a sort of generalized phonemic shape". (*A Course in Modern Linguistics*, New York: MacMillan Co., p.284.)

⁴⁵ Laurence C. Thompson (*A Vietnamese Grammar*, Seattle: University of Washington Press, 1965, p.50).

DISTRIBUTIONAL CHART
OF VOWELS AND DIPHTHONGS IN VIETNAMESE

NUMBERS	VOWELS & DIPH- THONGS	FREE	CHECKED						
			S.V.		CONSONANT				
			w	j	p	t	k	m	n
1	i	+	+		+	+		+	+
2	e	+	+		+	+		+	+
3	ɛ	+	+		+		+	+	+
4	a	+	+	+	+		+	+	+
5	ɤ	+	+	+	+		+	+	+
6	o	+		+	+		+	+	+
7	u	+		+	+		+	+	+
8	o	+		+	+		+	+	+
9	ɔ	+		+	+		+	+	+
10	ä		+	+			+	+	+
11	ā		+	+			+	+	+
12	au						+		+
13	iə	+					+		+
14	ʊə	+					+		+
15	uə	+					+		+

The circles  grouping the signs + mean that in these positions the vowels involved are neutralised in informal speech. A public speaker, for example, may pronounce *hợp* 'convenient', as /hɔp̚˧˨˩/; *hộp* 'box', as /hɔp̚˧˨˩/, and *hợp* 'gather', as /hɔp̚˧˨˩/, thus making a phonemic distinction between /ɔ̄/, /o/ and /ɔ/ before /p/, but in rapid or informal speech, the three words are pronounced indifferently /hɔp̚˧˨˩/, likewise the following words *cơm*, in /kit̚˧˨˩ kɔm̚˧˨˩/ *kích cơm* 'onomatopoeia for hard objects clashing', /kɔm̚˧˨˩/ *cơm* 'emerge', and /kɔm̚˧˨˩/ *cơm* 'feeble', can be pronounced in rapid informal speech as /kɔm̚˧˨˩/.

The vowels and diphthongs in Vietnamese can be grouped into the alloclasses of free and checked phonemes, or the alloclasses of those that can occur before such and such semivowels or consonants just as the English vowels were subgrouped. But this subclassification is not adopted here because it is not relevant to the contrastive work; it does not assist in presenting English problems to Vietnamese.

5.4. TRANSCRIPTIONAL SYSTEMS

Thompson opens his article "Saigon Phonemics", op.cit., page 454, by saying: "The phonological analysis of Saigon Vietnamese presents indeterminacy, multiple analyses, and asymmetry". He describes the syllabic system of Saigon Vietnamese as consisting of a main system of higher vowels and two subsystems of lower vowels (pp.461-3) as follows:

The main system has a two-by-three pattern:

i	y (our /ʏ/) u
e	ə (our /ɔ/) o

The vowels of this system occur in diphthongs before their homorganic higher semivowels, i.e. /ij ej yg əg uw ow/, and they do not occur finally.

The first subsystem has three vowels which occur long in final position; they are front unrounded, back rounded, and low (unrounded):

ɛ	ɔ
a	

The second subsystem has two vowels which do not occur long:

a (our /ä/)	ʌ (our /á/)
-------------	-------------

Without going into detailed theoretical implications, the present author agrees with Thompson that Saigon Vietnamese provides a further example of the principle of multiple analyses enunciated over three decades ago by Y.R. Chao⁴⁶.

For the practical purpose of a contrastive analysis of English and Vietnamese vowel systems, the phonemicisation of Vietnamese vowels and diphthongs as presented in this paper is preferred for the following reasons:

(1) The treatment of homorganic diphthongs, both of English and Vietnamese, as single vowels⁴⁷ simplifies the contrastive work by enabling us to present the network of vowel contrasts in terms of tongue position and lip rounding only. This means also, in pragmatic terms, a lightening of the learning load for the students. In fact, with this phonemi-

⁴⁶ Y.R. Chao, "The nonuniqueness of phonemic solutions of phonetic Systems", *Bulletin of the Institute of History and Philology, Academia Sinica* 4.363-97 (1943), reprinted in Martin Joos, *Readings in Linguistics*, ACLS, New York, 1958, pp.38-54.

⁴⁷ This is also the phonemicisation of Saigon Vietnamese by R.B. Jones and Huynh Sanh Thông, *Introduction to Spoken Vietnamese*, pp.1-7, ACLS, Washington DC, 1957, and the phonemicisation of Hanoi Vietnamese by M.B. Emeneau, *Studies in Vietnamese (Anamese) Grammar*, Berkeley and Los Angeles, 1951.

cisation, the students have to learn, on the recognition level, to recognise only identificational-contrastive features of tongue positions and lip rounding; only on the production level will they have to learn to use the right allophonic features of diphthongisation and length of English vowels.

(2) The treatment of homorganic diphthongs as single vowels (the case of /i e ε ʊ o/) as well as other phonetic diphthongs as phonemic units (the case of /uə ʊə iə əu/) when these sounds can be followed by a consonant (i.e. classification on the basis of distributional pattern), and other phonetic diphthongs as vowels + semivowels (the case of /aw aj ɔj uj iw etc./) when they cannot be followed by a consonant, permits a clear contrastive analysis of the simple Terminus alloclasses of the two languages, and consequently a better presentation of final consonants after /ai ɔi au/ in English as learning problems.

Chapter 6

CONTRASTIVE ANALYSIS: THE VOWELS

6.0. INTRODUCTION

6.0.1. Types of teaching and learning problems

There are two types of teaching and learning problems (recognition, and recognition problems) with the vowels, as with the consonants (cf. 3.0.1., page 25).

6.0.2. Contrastive Chart

If Charts XV, page 115, and XVIII, page 130, of the English and Vietnamese vowel systems are placed side by side, recognition problems and phonemic production problems stand out very clearly:

CHART XX

CONTRASTIVE CHART OF ENGLISH AND VIETNAMESE VOWELS

ENGLISH			VIETNAMESE			
FRONT	CENTRAL	BACK	FRONT	CENTRAL	BACK	
					Unrounded	Rounded
i ɪ		u ʊ	i ɪ		ʊ	u
e ɛ	ə	o	e ɛ	a a	ɔ	o
æ	a			a		

Dotted lines (---) show areas where a Vietnamese vowel phoneme is unmatched with anything in English. These areas would present, as we have seen in the case of consonants in 3.0.2., page 27, serious problems for English speakers learning Vietnamese; but they cause little trouble for Vietnamese speakers learning English, except that they might be used as substitutes for some English vowels.

Solid lines show areas where there is a real conflict to be overcome by Vietnamese speakers learning English, both on the recognition and on the production level. Dotted and dashed lines (-.-.-) show areas of conflict because the corresponding Vietnamese vowels are not similar enough to the English ones.

In the following discussion about learning problems of English vowels, the following three aspects will be presented:

(1) assumptions about problems which result from a contrastive analysis of a particular mode (feature, manifestation, or distribution mode);

(2) presentation of the results of the particular recognition or production tests;

(3) suggested drills which will help the student control the learning problems, and suggestions for recognition or production tests.

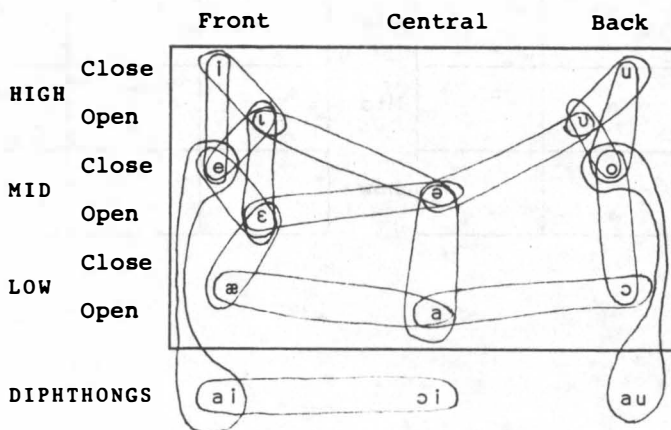
6.0.3. The recognition and the production tests

For details on the tests, see 3.0.3. and 3.0.4., pages 28-30.

6.1. RECOGNITION PROBLEMS

On the basis of Chart XX, page 139, the following minimally contrastive vowels are assumed to be possible recognition problems. Pairs of confusion vowel phonemes are joined together.

CHART XXI
ASSUMED RECOGNITION PROBLEMS OF ENGLISH VOWELS



6.1.1. Results of the recognition tests

Not all of the possible recognition problems stated in Chart XIX above are actual problems, either because similar contrasts exist in Vietnamese, or because the phonetic natures of the two English sounds involved are too different to be confused. But to make sure, all the supposed problems have been tested. Following is Table 18 showing the results of the recognition tests, Part I dealing with English vowels and diphthongs.

TABLE 18
RECOGNITION PROBLEMS OF VOWELS AND DIPHTHONGS

ORDER OF DIFFICULTIES	PROBLEMS	NUMBER OF QUESTIONS	NUMBER OF STUDENTS	NUMBER OF OCCURRENCES	NUMBER OF MISTAKES	PERCENTAGE OF MISTAKES	BINARY CONTRASTIVE FEATURES INVOLVED IN THE PAIRS OF VOWELS
1	ɛ/æ	5	60	300	62	20.7	Open-mid/Close-low
2	u/u				55	18.3	Close-high/Open-high
3	ə/a				54	18.0	Mid (central)/Low (central)
4	e/ɛ				43	14.3	Close-mid/Open-mid
5	i/ɪ				34	11.3	Close-high/Open-high
6	ɪ/ɛ				31	10.3	Open-high/Open-mid
7	ə/u				27	9.0	Open-high (back)/Mid (central)
8	ə/ɔ				26	8.7	Mid (central)/Low (back)
9	e/aɪ				24	8.0	Close-mid/Low
10	ɪ/e				24	8.0	Open-high/Close-low
11	a/ɔ				19	6.3	Central/Back
12	i/e				18	6.0	Close-high/Close-mid
13	æ/a				11	3.7	Front/Central
13	o/au				11	3.7	Close-mid/Low
13	u/o				11	3.7	Close-high/Close-mid
16	o/ɔ				9	3.0	Close-mid/Low
16	u/o				9	3.0	Open-high/Close-mid
16	ɪ/ə				9	3.0	Open-high (front)/Mid (central)
19	ɛ/ə				8	2.7	Open-mid (front)/Mid (central)
19	æ/ə				8	2.7	Front/Central
21	aɪ/ɔɪ				7	2.3	Central/Back
22	ə/ər				6	2.0	Non-constricted/Constricted

6.1.2. Suggestions for recognition drills and tests

In the teaching of vowels and diphthongs in English, as well as in the preparation of pronunciation text-books and recognition tests, the relative order of difficulty of recognition problems of minimally contrastive vowels and diphthongs, as well as the binary contrastive features involved (as stated in Table XVIII), should be taken into consideration. If we decide arbitrarily that 6% is the minimal percentage of mistakes required to consider a pair of vowels or diphthongs as a recognition problem, we have the following twelve problems:

1. /ɛ/-/æ/, as in *men/man, bet/bat, pen/pan* (20.7%).
The students should learn to recognise the binary open-mid/close-low, and lax/tense features involved in the pair of vowels.
2. /u/-/ʊ/, as in *fool/full, shoed/should, pool/pull* (18.3%).
The students should learn to recognise the binary close-high/open-high, tense/lax, and usually diphthongal/monophthongal features involved in the pair of vowels.
3. /ə/-/a/, as in *hut/hot, cut/cot, luck/lock* (18.3%).
The students should learn to recognise the binary central/low, and to a lesser degree the binary lax/tense features involved in the pair of vowels.
4. /e/-/ɛ/, as in *pain/pen, bait/bet, late/let* (14.3%).
The students should learn to recognise the binary close-mid/open-mid, tense/lax, and usually diphthongal/monophthongal features involved in the pair of vowels.
5. /i/-/ɪ/, as in *beat/bit, heat/hit, scene/sin* (11.3%).
The students should learn to recognise the binary close-high/open-high, tense/lax, and usually diphthongal/monophthongal features involved in the pair of vowels.
6. /ɪ/-/e/, as in *bit/bet, sit/set, till/tell* (10.3%).
The students should learn to recognise the binary open-high/open-mid features involved in the pair of vowels.
7. /ə/-/u/, as in *luck/look, roof/rough, tuck/took* (9%).
The students should learn to recognise the binary mid/open-high, central/back, and unrounded/rounded features involved in the pair of vowels.
8. /ə/-/ɔ/, as in *cut/caught, but/bought, nut/naught* (8.7%).
The students should learn to recognise the binary mid/higher-low, central/back, and unrounded/rounded features involved in the pair of vowels.

9. /ɪ/-/e/, as in *rid/raid, sin/sane, fill/fail* (8%).

The students should learn to recognise the binary open-high/close-mid, lax/tense, and, usually, monophthongal/diphthongal features involved in the pair of vowels.

10. /e/-/aɪ/, as in *late/light, main/mine, Dave/dive* (8%).

The students should learn to recognise the binary close-mid/open-low, front/central, and sometimes monophthongal/diphthongal features involved in the pair of vowel and diphthong.

11. /a/-/ɔ/, as in *not/naught, cot/caught, bot/bought* (6.3%).

The students should learn to recognise the binary open-low/close-low, central/back, and unrounded/rounded features.

12. /i/-/e/ , as in *meet/mate, seen/sane, mean/main* (6%).

The students should learn to recognise the binary close-high/open-mid, and sometimes the binary monophthongal/diphthongal features involved in the pair of vowels.

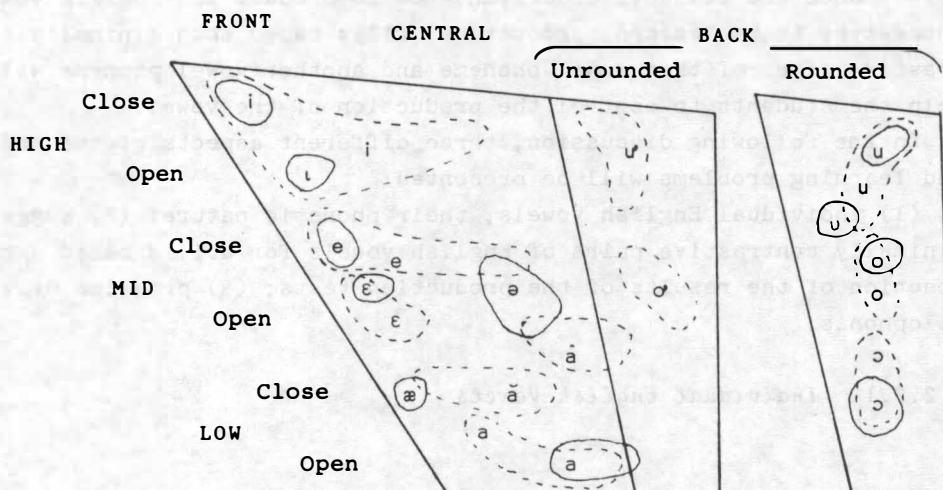
6.2. PRODUCTION PROBLEMS

6.2.0. Contrastive Chart

In contrasting the vowels and diphthongs of English and Vietnamese to find out production problems, the contrastive chart on page 139 (which makes simple phonemic diagrams of the two vowel systems and places them side by side) is not enough. It is necessary to show allophones of vowel phonemes of both languages as follows:

CHART XXII

CONTRASTIVE CHART OF ALLOPHONIC RANGES OF VOWEL PHONEMES IN ENGLISH AND VIETNAMESE



Areas delimited in dotted contours mark allophonic ranges of Vietnamese vowel phonemes; and areas delimited in continuous contours mark those of English vowel phonemes.

Inspection of the Chart reveals a host of conflicts between the English and Vietnamese vowel systems. There are, however, some common areas of allophonic ranges between the two systems. These areas could be exploited to teach the production of English vowel phone-types when the matching Vietnamese phone-types are used.

6.2.1. Results of the production tests

Table 19, on pages 146 and 147, states the results of the production tests on problems of English vowels and diphthongs. Since in Vietnamese allophonic variations of vowel phonemes are phonetically conditioned by the phonetic nature of what follows the phonemes, Vietnamese students will tend to produce the appropriate Vietnamese allophone for each conditioning environment when they speak English. Consequently, we must try to find out the most common deviants used by Vietnamese speakers for each English vowel phoneme in free position as well as before each final consonant phoneme. Table 19 attempts to show that. The results of the production tests are not as adequate as those on consonants and consonant clusters, because students make many spelling pronunciations for vowel letters.

6.2.2. Suggestions for production drills

The most suitable way to teach Vietnamese students to pronounce English vowel phone-types is to present to them the Vietnamese allophones which are phonetically similar to the English vowel phone-types, and to describe the production of the English phone-types in terms of component phonetic features. Facial diagrams are of great usefulness here. Once the students understand how to produce the English vowel phone-type to be learned, production drills based upon minimally contrastive pairs of that vowel phoneme and another vowel phoneme will help the students to control the production of the vowel.

In the following discussion, three different aspects of the teaching and learning problems will be presented:

(1) individual English vowels, their phonetic nature; (2) suggested minimally contrastive pairs of English vowels for drills based upon inspection of the results of the production tests; (3) problems of vowel allophones.

6.2.2.1. Individual English Vowels

A. FRONT VOWELS

1. /i/, close-high front vowel:

- a. Phonetic and allophonic nature. The vowel /i/ has three allophones [iⁱ i i^a], all starting practically at the same tongue position.
- b. Nature of the problem (33.3% mistakes)⁴⁸: phonemic. The sounds most commonly substituted were [ɪ i^a ɛ e^a].
- c. Similar allophone in Vietnamese. The allophone [iⁱ] manifesting the Vietnamese vowel phoneme /i/ in free position is similar to the English phone-type for /i/.

Thus, Vietnamese words like /mi/ mi 'thou', /ni/ ni 'measure', /si/ xi 'chrome', /ji/ di 'move' are homophonous to the English words *me*, *knee*, *see*, *ye*. Consequently, production drills on the English /i/ should start with the vowel in free position before going to the vowel in checked position.

2. /ɪ/, open-high front vowel:

- a. Phonetic and allophonic nature. The vowel /ɪ/ has three allophones [ɪ ɪⁱ ɪ^a], all starting practically at the same tongue position.
- b. Nature of the problem (69.8% mistakes): phonemic. The sounds most commonly substituted were [i iⁱ ɛ eⁱ].
- c. Similar allophone in Vietnamese. The allophone [ɪ] manifesting Vietnamese /i/ after /c j ɲ/ and before /t n/ is produced with a similar tongue position. Thus, Vietnamese words like /cin/ chin 'to wage, war', /jin/ dinh 'palace', /ɲin/ nhin 'look', could be used to demonstrate the tongue position for English /ɪ/.

3. /e/, close-mid front vowel:

- a. Phonetic and allophonic nature. The vowel /e/ has three allophones [eⁱ e e^a], all starting practically at the same tongue position.
- b. Nature of the problem (65.8% mistakes): phonemic. The sounds most commonly substituted were [ɛⁱ ɛ: ɛ^a]. [ej e:] were also substituted, but these cases represent phonetic, not phonemic, problems.

⁴⁸ These most common deviants are taken from Table 19.

PRODUCTION PROBLEMS OF VOWELS AND DIPHTHONGS

		THE VOWELS AND DIPHTHONGS																					
		FRONT															CENTRAL						
		HIGH						MID						LOW			MID			LOW			
		Higher			Lower			Higher			Lower												
		i			ɪ			e			ɛ			ə			ə			ə			
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
FREE POSITION		1	ɪ, ɪ	1				7	ə, j, e:	6				3	a	3	0			8	ɔ, ʌ	7	
THE CONSONANTS FOLLOWING THE VOWELS OR DIPHTHONGS	stops	voiceless	-p	8	ɪ, ʰ	5	9	ɪ, ʰ	8	5	ə, j, e:	5			3	a	3	0			8	ɔ, ʌ	7
		-t	5	ɪ, ʰ	4	11	ɪ, ʰ	9	10	ə, j:	8	8	ɪ, eʰ	6	8	a, eʰ	7	0			7	ɔ	7
		-k	7	ɪ, ʰ, ɪ	5	8	ɪ, ʰ	8				3	ɪ, eʰ	3	8	ə, ʌ	6	4	əʰ, ʌʰ	3	7	ɔ	6
		-b													5	a, eʰ	3	1	a	1	9	ɔ	8
		-d	1	ɪ, ʰ	1	9	ɪ, ʰ	8	5	ə, j:, e:	4	8	ɪ, ʰ	6	6	a, eʰ	5						
		-g				12	ɪ, ɪ	11				4	eʰ	3	2	eʰ	2	3	ʌʰ, ɔ	3			
	affricates	vd	-tʃ	4	ɪ, ʰ	4	7	ɪ, ʰ, ɪ, ʰ	7						7	e, a	5	0					
		-dʒ							7	eʰ, e, j	5						5	ʌʰ, ʃ	4				
		-θ													5	eʰ, a	4						
		-f	4	ɪ, ʰ	3	11	ɪ, ɪ	11				5	ɪ, eʰ	5			2	ʌʰ	2				
		-s				7	ɪ, ʰ	7				1	eʰ	1	8	a, eʰ	7	0					
		-ʃ				8	ɪ, ʰ, ɪ, ʰ	8							1	a	1						
	fricatives	voiceless	-h																				
		-v				8	ɪ, ʰ	8				5	ɪ, eʰ	4	1	ɪ, ʰ	1						
		-ð	9	e, eʰ	7				11	ɪ, eʰ	9												
		-z	1	ɪ, ʰ	1	9	ɪ:, eʰ	8	10	e:, e, j	9												
		-ʒ										7	ɪ, eʰ	5									
nasals	voiced	-m	2	ɪ:, e:	2	8	ɪ, ʰ	7	8	e:, e:	7	2	eʰ, eʰ	2	2	a, eʰ	2	3	ʊ, ɔ	3	8	ɔ	6
	-n	3	ɪ	3	10	ɪʰ, ɪ	9	7	e, eʰ	7	2	eʰ	2	11	e	10	1	ʌʰ	1				
	-ŋ				4	ɪʰ, ɪ	4				6	eʰ, ɪ	4	3	a, eʰ	2	0						
SV lat.	rd	-l	3	ɪ	3	7	ɪ	7	9	e, eʰ	6	3	a, eʰ	3	6	ɔ, a	5	2	ʊ	2	10	ɔ, ɔʰ	8
	vd	-r				6	ɪ:	5									6	ʊ	4	1	aʰ	1	

TOTALS	48		39	134		125	79		66	54		44	76		63	27		23	50		43
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PERCENTAGES	33.3		81.3	69.8		93.3	65.8		83.5	37.5		81.5	42.2		82.9	16.0		82.9	16.0		85.2
--------------------	------	--	------	------	--	------	------	--	------	------	--	------	------	--	------	------	--	------	------	--	------

MOST COMMON DEVIANTS	i, i ^h , i ^l , e, e ^h , e ^l	i, i ^h , i ^l , e ^h , e ^l	e, j, e:, e ^h , e:	e ^h , e ^l , e ^h , e ^l	e ^h , e ^l , a, a ^h , a ^l	u, u ^h , u ^l , u ^h , u ^l	o, a, o ^h , o ^l

The Roman numbers I, II and III under each vowel:

Column I - Number, total and percentage of deviations.

Column II = Most common deviants.

Column III = Number, total, and percentage of most common deviations.

TABLE 19 (continued from page 146)
PRODUCTION PROBLEMS OF VOWELS AND DIPHTHONGS

		THE VOWELS AND DIPHTHONGS																				
		BACK												DIPHTHONGS								
		HIGH						MID						CONTAINING [ə]						CONTAINING [ɔ]		
		Higher			Lower			Higher			Lower											
		u			u			o			ɔ			aɪ			əu			ɔɪ		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
FREE POSITION		2	o ^u	2				5	o ^u , ɔ	5				0			3		3			
		3	u, ʊ	2				5	o:, ɔ ^u	4	3	ɔ, ʌu	3									
	stops																					
	-p																					
	-t				10	u	10							1	əj	1						
	-k				9	u, ʌ	9	12	ɔ, ɔ ^u	9												
	-b	3	u, ʊ	3				8	ə ^u , ɔ ^u	6												
	-d	5	u, a ^u	4				4	o ^u , ɔ:	4	6	ɔ ^u , ɔ	5	4	1	4	2	əu	2			
	-g																					
	-ʒ																					
	-ʃ	3	ʊ, u	2																		
	fricatives																					
	-θ																1	ə	1			
	-f				12	u, ʌ	12															
	-s													0								
	-ʒ				9	u, ʌ	9															
	-v	4	u, o ^u	3																		
	-ð	3	o, u	2																		
	-z	2	ʊ, u	2													3	əu	3	0		
	-ʒ	8	o, e	6																		
	nasals																					
	-m	4	ʊ, u	4				9	ɔ, ʌ	6												
	-n	1	o<	1										4	1	4	1	ɔ	1			
	-ŋ										2	ɔ	2									
	SV lat.																					
	-l	2	ʊ	2	11	u, o	11	7	o ^u , əu	4	4	ɔu, o	3							2	ɔɪ	2
	vd	-r			8	ʊ, u ^u	8				0											

TOTALS	40		33	59		59	50		38	15		13	9		9	7		7	2		2
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PERCENTAGES	59.5		82.5	81.9		100	59.5		76.0	25.0		86.6	18.8		100	11.7		100	8.3		100
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MOST COMMON DEVIANTS	u, ʊ, o ^u , ə ^u	u, ʌ, u	o ^u , əu, o:, ʌ	ɔ, ɔ ^u , o, ɔ ^u	ɪ, əj	əu, o, ɔ, ə	ɔɪ
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The Roman numbers I, II and III under each vowel:
Column I = Number, total and percentage of deviations.
II = Most common deviants.
III = Number, total, and percentage of most common deviations.

c. Similar allophone in Vietnamese. The allophone [eⁱ] manifesting the Vietnamese vowel phoneme /e/ in free position is similar to the English phone-type for /e/. Thus, Vietnamese words like /le/ lê 'peach', /me/ mê 'melomania', /de/ dê 'dam', are homophonous to the English words *lay, May, day*. Consequently, production drills on the English /e/ should start with the vowel in free position before going to the vowel in checked position.

4. /ɛ/, open-mid front vowel:

- a. Phonetic and allophonic nature. The vowel /ɛ/ has three allophones [ɛ ɛ^o ɛ^u], all starting practically at the same position.
- b. Nature of the problem (37.5% mistakes): phonemic. The sounds most commonly substituted were [ɛ^o ɛⁱ æ^u a].
- c. Similar allophone in Vietnamese. The allophone [ɛ] manifesting Vietnamese /ɛ/ before /p k/ is produced at a similar tongue position. Thus Vietnamese words such as /cɛp'/ chɛp 'copy', /hɛk'/ hét 'scream', could be used to demonstrate the tongue position for English /ɛ/. But, since Vietnamese /ɛ/ is manifested before /-k/ by two freely variant allophones [ɛ ɛ^o], it is better to use only Vietnamese /-ɛp/ for the purpose.

5. /æ/, close-low front vowel:

- a. Phonetic and allophonic nature. The vowel /æ/ has three allophones [æ æ^o æ^u], all starting practically at the same tongue position.
- b. Nature of the problem (42.2% mistakes): phonemic. The sounds most commonly substituted were [ɛ^o ɛⁱ a ɔ].
- c. Similar allophone in Vietnamese: none. The production of the sound can be taught only with a facial diagram and a phonetic description of the sound. A simple exercise for the students to have the right tongue position for [æ] is to ask them to move their tongue position without interruption from [i] to [ɛ] and to continue moving their tongue position further downward towards [æ], with a phonetic tenseness feature, i.e. [i i i i e e e e æ æ].

B. CENTRAL VOWELS

1. /ə/, mid central vowel:

- a. Phonetic and allophonic nature. The vowel /ə/ has three

phonetically conditioned allophones: [ɑ] in stressed position; [ə] in unstressed position; and constricted [ə] both in stressed and unstressed position, and which is analysed phonemically as /ər/.

- b. Nature of the problem (16% mistakes): phonemic. The sounds most commonly substituted were [u ʌ̃ u o ɔ].
- c. Similar allophones in Vietnamese:
 - (i) The allophone [ʌ] manifesting Vietnamese /a/ in the following environments is produced at a similar tongue position. After /b f w m c j l ɲ x g/ and before /j/ with stresses. Thus, the following Vietnamese words can be used to demonstrate the tongue position for English stressed [ɑ]: /māj/ māj 'cloud', /lāj/ lāj 'contaminate', /jāj/ dāj 'string', etc.
 - (ii) The allophone [e₃] manifesting Vietnamese /e/ before /t n/ is produced at a tongue position similar to that of English [ə]. Thus, Vietnamese words such as /ten/ tên 'name', /cet/ chêt 'die', could be used to demonstrate the tongue position for English unstressed /ə/ in /'sofə/ 'sofa'.
 - (iii) There is no similar allophone in Vietnamese to English [ə]. The production of the sound can be taught only with a facial diagram, a palatogram, and a phonetic description of the sound, such as: the sound [ə] is articulated not in the tongue-tip position, but with the body of the tongue arched towards the roof of the mouth and with the sides of the mouth drawn away from the gums. The lateral constriction of the tongue creates a resonance chamber while the vibrating breath passes over the tongue and by its side.

2. /a/, open-low central vowel:

- a. Phonetic and allophonic nature. The vowel /a/ has two allophones [a a₁] differing from each other by length.
- b. Nature of the problem (59.5% mistakes): phonemic. The sounds most commonly substituted were [ʌ o^u a^u].
- c. Similar allophone in Vietnamese: the allophone [a₄] manifesting Vietnamese /a/ except after /t^h c j h/ and before /m/ is produced at similar tongue position. Thus, Vietnamese words such as /nam/ nam 'south', /kam/ cam 'orange', could be used to exemplify the tongue position for English /a/.

C. BACK VOWELS

1. /u/, close-high back (rounded) vowel:

- a. Phonetic and allophonic nature. The vowel /u/ has two allophones [u^u u], both of them starting practically at the same tongue position.
- b. Nature of the problem (27.8% mistakes): phonemic. The sounds most commonly substituted were [v u o^u ə^u].
- c. Similar allophone in Vietnamese: the allophone [u^u] manifesting the Vietnamese vowel phoneme /u/ in free position is similar to the English phone-type for /u/. Thus, Vietnamese words like /t^h u/ thu 'autumn', /su/ xu 'cent', /nu/ nu 'brown', are homophonous to the English words *two*, *Sue*, *new*. Consequently, production drills on the English /u/ should start with the vowel in free position before going to the vowel in checked position.

2. /ʊ/, open-high front vowel:

- a. Phonetic and allophonic nature. The vowel /ʊ/ has two allophones [v ʊ·] differing from each other by their relative length.
- b. Nature of the problem (81.9% mistakes): phonemic. The sounds most commonly substituted were [u ə^u u].
- c. Similar allophone in Vietnamese: the allophone [u₃] manifesting Vietnamese /u/ before /k ɣ/ is produced at a similar tongue position. Thus, the Vietnamese words /tʃuŋ/ trung 'faithful', /kuŋ/ cung 'arrow', /nup'/ núp 'hide', would demonstrate the tongue position for English /ʊ/.

3. /o/, close-mid back (rounded) vowel:

- a. Phonetic and allophonic nature. The vowel /o/ has two allophones [o o^u], both starting practically at the same tongue position.
- b. Nature of the problem (59.5% mistakes): it is a phonemic problem when the students produce [ʌ] and a phonetic problem when the students produce one of the sounds [oʏ ə^u o:].
- c. Similar allophone in Vietnamese: the allophone [o^u] manifesting Vietnamese /o/ in free position is quite similar to the English phone-type for /o/. Thus, such words as /so/ xô 'push', /lo/ lô 'lot', /no/ nô 'slave', are homophonous to the English words *so*, *low*, *no*. Consequently, production drills on the English /o/ should start with the vowel in free position before going to the vowel in checked position.

4. /ɔ/, close-low back (rounded) vowel:

- a. Phonetic and allophonic nature. The vowel /ɔ/ has two allophones [ɔ ɔ̃] differing only in length.
- b. Nature of the problem (25% mistakes): the sounds most commonly substituted were [ɒ ɔ̃ ɔ̃̃ ɔ̃̃̃].
- c. Similar allophone in Vietnamese: the allophone [ɔ̃] manifesting Vietnamese /ɔ/ before /k/ is produced at a similar tongue position. Thus, Vietnamese words like /cɔk'/ chót 'final', /jɔk'/ giọt 'drop', would demonstrate the tongue position for English /ɔ/.

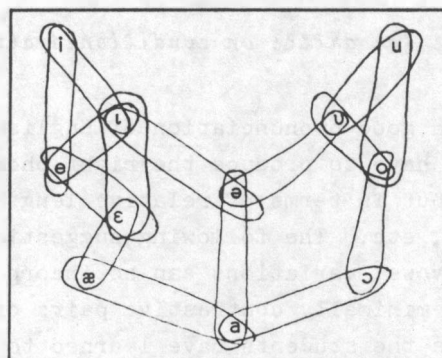
D. ENGLISH DIPHTHONGS

- a. Phonetic and allophonic nature. The English diphthongs /aɪ ɔɪ au/ are phonetically [a' ɔ' a' u].
- b. Nature of the problems: there are practically no pronunciation problems for English /aɪ ɔɪ au/ because Vietnamese /aj ɔj aw/ are phonetically very similar to them.

6.2.2.2. Minimum pairs for production drills

In the teaching of English vowels and diphthongs, as well as in the preparation of pronunciation text-books and production tests, the relative order of difficulty of each phoneme should be taken into consideration. Nevertheless, production drills on vowels, as on consonants and consonant clusters, are best presented in forms of minimally contrastive pairs.

Inspection of Table 19, with careful consideration of the most common deviants for each English vowel phoneme, reveals that the following fifteen minimally contrastive pairs of vowels should be practised in production drills:



Examples of pairs of words and the binary features involved in the pairs of vowels in question have been given in "Suggestions for recognition drills and tests", 6.1.2., pages 142-3. Those of the following pairs which have been discussed in 6.1.2. are so indicated.

1. /i/-/ɪ/ (cf. 6.1.2. No.5)
2. /i/-/e/ (cf. 6.1.2. No.12)
3. /ɪ/-/e/ (cf. 6.1.2. No.9)
4. /ɪ/-/ɛ/ (cf. 6.1.2. No.6)
5. /e/-/ɛ/ (cf. 6.1.2. No.4)
6. /ɛ/-/æ/ (cf. 6.1.2. No.1)
7. /ɪ/-/ə/, as in *bid/bud, sin/sun, dill/dull*.

The students should be taught that involved in the pair of vowels are the binary front/central, and lower-high/mean-mid features.

8. /æ/-/a/, as in *hat/hot, cat/cot, lack/lock*.

The students should be taught that involved in the pair of vowels are the binary front/central, and close-low/open-low features.

9. /ə/-/ʊ/ (cf. 6.1.2. No.7)
10. /a/-/ɔ/ (cf. 6.1.2. No.11)
11. /ə/-/a/ (cf. 6.1.2. No.3)
12. /ʊ/-/ʊ/ (cf. 6.1.2. No.2)
13. /ʊ/-/o/ as in *soup/soap, soon/sown, boot/boat*.

The students should be taught that involved in the pairs of vowels are the binary close-high/close-mid features.

14. /ʊ/-/o/ as in *full/foal, could/code, pull/pole*.

The students should be taught that involved in the pairs of vowels are the binary open-high/close-low, and usually the binary monophthongal/diphthongal features.

15. /o/-/ɔ/ as in *note/naught, boat/bought, coat/caught*.

The students should be taught that involved in the pair of vowels are the binary close-mid/close-low and sometimes the binary monophthongal/diphthongal features.

6.2.2.3. Suggestions for drills on conditioned allophonic vowel variations

In order to have a good pronunciation of English vowels and diphthongs, the students have to produce the right phones not only in terms of tongue position, but in terms of relative length, monophthongal/diphthongal features, etc. The following suggestions for drills on conditional allophonic vowel variations can be incorporated in the lessons on the production of minimally contrastive pairs of vowels set out in 6.2.2.2. above. Once the students have learned to produce the phone-type of a phoneme, they can proceed to the learning of allophone

variations.

6.2.2.3.1. *The binary phonetic decentralised/centralised features*

The binary phonetic decentralised/centralised features, correlative to the binary tense/lax features (cf. 4.2.1., page 117) should be taught to the students in the production of the decentralised and tense vowels /i e u o ə/ in *feel, fail, fool, hole, hat*, and of the centralised and lax vowels /ɪ ɛ ʊ/ in *fill, fell, full*.

6.2.2.3.2. *The allophonic long/short features*

1. **Phonetic nature** - English vowels are (1) short before voiceless consonant; (2) half-long before voiced consonant; and (3) long in word-final position.

2. **Similar allophonic variations in Vietnamese** - Vietnamese vowels are (1) short before stops, which are always voiceless; (2) half-long before semi-vowels and nasals, which are voiced; (3) long in word-final position.

3. **Suggestions for explanations** - Since the allophonic short/long features are practically the same in both languages, production drills are not necessary, but a demonstration of the allophonic variations in Vietnamese is useful to the explanation of the same variations in English which are correlative to the binary monophthongal/diphthongal features below.

6.2.2.3.3. *The allophonic monophthongal/diphthongal features*

A. DECENTRALISED DIPHTHONGISATION

1. **Phonetic nature** - English /i u/ are diphthongs when they are before voiced consonants (i.e. when they are half-long) and word-final (i.e. they are long), and English /e o/ are diphthongs in all environments (cf. 4.2.3., pages 118-19).

2. **Similar allophonic variations in Vietnamese** - The Vietnamese vowels /i e u o ʊ ɔ/ are diphthongs when they are word-final.

3. **Suggestions for explanations and drills** - Vietnamese words like /ji je jʊ jɔ ju ko/ di 'move', dê 'sheep', dư 'excess', dơ 'dirty', du 'travel', and cô 'miss', can be used to demonstrate diphthongisation of the six Vietnamese vowels. After the students have understood homorganic diphthongisation, the same phenomenon in English is demonstrated. The following sample words can be used:

		Short	Half-long	Long
High	/i/	[bɪt] <i>beat</i>	[bi· [̣] ɪd] <i>bead</i>	[bi: [̣]] <i>bee</i>
Mid	/e/	[be [̣] ɪt] <i>bate</i>	[be· [̣] ɪd] <i>bayed</i>	[be:i] <i>bay</i>
High	/u/	[rut] <i>root</i>	[ru· [̣] ɪd] <i>rude</i>	[ru: [̣]] <i>rue</i>
Mid	/o/	[ro [̣] ɪt] <i>wrote</i>	[ro·ud] <i>road</i>	[ro:u] <i>roe</i>

B. CENTRALISED DIPHTHONGISATION

1. **Phonetic nature** - Besides these "upgliding" and "decentralising" diphthongisations, there are also "ingliding" or "centralising" diphthongisations which are especially noticeable after front vowels before velarised [ɹ].

2. **Similar allophonic variations in Vietnamese** - Vietnamese /ɛ/ is manifested by the centrally diphthongised [ɛ^ə] allophone finally and before /k ɲ/.

3. **Suggestions for explanations and drills** - Vietnamese words like /gɛ gɛŋ gɛk'/, ghe 'boat', ghen 'jealous', ghét 'hate', can be exemplified as containing centralised diphthongisation. After the students have understood centralised diphthongisation, the same phenomenon in English can be demonstrated. The following sample words can be used:

FRONT VOWELS	BEFORE VELARISED /ɹ/
/i/	[i ^ə] as in [si ^ə ɹ] <i>seal</i>
/ɪ/	[ɪ ^ə] as in [sɪ ^ə ɹ] <i>sill</i>
/e/	[eɪ ^ə] as in [seɪ ^ə ɹ] <i>sail</i>
/ɛ/	[ɛ ^ə] as in [sɛɹ] <i>sell</i>
/æ/	[æ ^ə] as in [sæ ^ə ɹ] <i>sal</i>

6.2.3. Distributional problems of English vowels

The distribution modes of English and Vietnamese vowels have some dissimilarities which are by definition teaching and learning problems.

6.2.3.1. English /aɪ ɔɪ au/ as checked diphthongs

1. **Distribution** - Like single vowels, the English diphthongs /aɪ ɔɪ au/ can be followed by final consonants or consonant clusters.

2. **Distribution of Vietnamese diphthongs** - The Vietnamese diphthongs (except /iə uə ʊə əu/) unlike single vowels, occur only as free diphthongs. That is why they are represented phonemically as vowel + semi-vowel.

3. **Suggestions** - Production drills should start with contrasts between free and checked /ai ɔi au/ in English, such as in the following pairs: *rye/right, boy/Boyce, row/rout (fight)*. When the students can pronounce vowels after these diphthongs, drills on different final consonants as presented in 3.2.2.2.1.-10., pages 71-77, after these diphthongs can be done.

6.2.3.2. *The subclass of English stressed vowels before /r/*

1. **Phonetic and allophonic nature** - As stated in 4.3.2., pages 120-121, besides the diphthongs /ai au ɔi/. American English has a minimum of six vowel contrasts of which four are archiphonemes /i E ə a U O/.

2. **Similar phonetic phenomenon in Vietnamese** - As stated in the distribution mode of Vietnamese vowels, 5.3., pages 135-6, in informal speech, /σ o ɔ/ are usually neutralised before /p/ and /m/, likewise /ə ʌ/ are always neutralised before /w/ and /j/.

3. **Suggestions for explanations and drills** - Vietnamese words such as /hɔp˥ hɔp˥ hɔp˥/ hɔp 'convenient', hɔp 'box', hɔp 'gather', are usually neutralised in informal speech and pronounced indifferently /hɔp˥/. After the phenomenon of neutralisation is explained, using the Vietnamese example, drills on archiphonemes before /r/ in English can be done. The following words can be used:

/i/	/E/	/ə/[ə]	/a/	/u/	/O/
<i>beer</i>	<i>bare</i>	<i>her</i>	<i>bar</i>	<i>boor</i>	<i>bore</i>
<i>fear</i>	<i>fare</i>	<i>fur</i>	<i>far</i>	<i>tow</i>	<i>four</i>
<i>dear</i>	<i>dare</i>	<i>sir</i>	<i>car</i>	<i>sure</i>	<i>core</i>

6.2.3.3. *English unstressed vowels*

English places very strict limitations on the number of unstressed vowels it uses and on the positions in which they occur within words (cf. 4.3.3., pages 121-4). The reduction of vowel contrasts in unstressed position, causes great recognition and production problems to Vietnamese speakers who are used to a monosyllabic language where any vowel must be pronounced clearly. Problems of English unstressed vowels can be regrouped as follows:

6.2.3.3.1. *English unstressed word-final vowels*

1. The phonemes - In word-final unstressed syllables, English has six contrastive vowels. One of them occurs only in checked syllables.

2. Suggestions for drills - These drills are aimed at getting the students familiar with the pronunciation of unstressed vowels of English in word-final syllables. The six vowels drilled on the production level are:

FREE		CHECKED
/i/	/'stædi/ <i>study</i>	/'stædiz/ <i>studies</i>
/ɪ/		/'vælɪd/ <i>valid</i>
/e/	/'sænde/ <i>Sunday</i>	/'sændeɪz/ <i>Sundays</i>
/ə/	/'vɪstə/ <i>vista</i>	/'vɪstəz/ <i>vistas</i>
/u/	/'ɪʒu/ <i>issue</i>	/'ɪʒuz/ <i>issues</i>
/o/	/'eko/ <i>echo</i>	/'ekoz/ <i>echoes</i>

6.2.3.3.2. English unstressed vowels in other syllables than final ones

1. The phonemes - In unstressed syllables other than those at the end of a word, probably all vowels can occur in careful speech, but in informal speech, American speech shows a strong tendency towards using only the single vowel /ə/. Nevertheless, /ɪ/ is also used in non-final unstressed syllables.

2. Suggestions for drills - The following drills aim at getting the students used to unstressed /ə/ in two-syllable words first, then three-, four- and five-syllable words.

The following pairs of words can be used to demonstrate primary stress and absence of stress (tertiary stress), and also /ə/.

/'V-v/		/ə-'V/	
/'æ,dres/	<i>address</i>	/ə'dres/	<i>address</i>
/'kən,fɪkt/	<i>conflict</i>	/kən'fɪkt/	<i>conflict</i>
/'kən,trækt/	<i>contract</i>	/kən'trækt/	<i>contract</i>
/'kən,vərs/	<i>converse</i>	/kən'vərs/	<i>converse</i>
/'kən,vɪkt/	<i>convict</i>	/kən'vɪkt/	<i>convict</i>
/'præʃekt/	<i>project</i>	/prə'ʃekt/	<i>project</i>
/'reɪbəl/	<i>rebel</i>	/rɪ'beɪl/	<i>rebel</i>

Once the students can use /ə/ə/ɪ/ in unstressed syllables in two-syllable words, production drills on /ə/ in unstressed syllables in three-, four-, five-, etc. syllable words can be done as follows:

ENGLISH /,v-ə-'v.../	
/,ækə'demɪk/	<i>academic</i>
/,ɔtə'mætɪk/	<i>automatic</i>
/,deməns'treɪʃən/	<i>demonstration</i>
/,kælə'rɪfɪk/	<i>calorific</i>
/,ætməs'ferɪk/	<i>atmospheric</i>
/,strætəs'ferɪk/	<i>stratospheric</i>
/,heməs'ferɪk/	<i>hemispheric</i>

ENGLISH /,v-ə-ə-'v.../	
/,ænθrəpə'laʃɪkəl/	<i>anthropological</i>
/,entəmə'laʃɪkəl/	<i>entomological</i>
/,sentəmən'tæləti/	<i>sentimentality</i>

Drills should also be done on the production of /ɪ/ in unstressed syllables before /ʃ ʒ ŋ/ as in the following words:

/ˈspɪnɪʃ/ 'spinach', /ˈpækɪʒ/ 'package', /ˈpəlɪʃ/ 'polish',
/ˈbrɪŋɪŋ/ 'bringing'.

6.2.3.3.3. English unstressed /ə/ in monosyllabic words

1. **Monosyllabic words** - English monosyllabic words *the, a, an, and, have, can, them, to, do, you, are* are pronounced with /ə/ in unstressed position except before vowels (see page 123).

2. **Suggestions for drills** - Since these words are frequently used, a good pronunciation of them is to be mastered by the students. For examples of these words for drills, see page 123.

6.2.3.3.4. English unstressed vowels before other vowels

1. **The nature** - The replacement of stressed vowels by unstressed /ə/ takes place only before consonants. When a vowel follows, the vowel of stressed position is kept in unstressed position as well.

2. **Suggestions for drills** - These drills aim at contrasting "full" vowels in unstressed position before a vowel and unstressed /ə/ before a consonant.

UNSTRESSED /ə/ BEFORE CONSONANTS	UNSTRESSED "FULL" VOWELS BEFORE VOWELS
/prə'test/ (to) protest	/ri'æləti/ reality
/kən'vɜ:s/ converse	/du'æləti/ duality
/prə'ʃekt/ project	/ko'apə,ret/ cooperate
/kən'vɪkt/ convict	/ko'ɔ:də,net/ coordinate

UNSTRESSED MONOSYLLABIC WORDS BEFORE CONSONANTS	UNSTRESSED MONOSYLLABIC WORDS BEFORE VOWELS
/ə/ /ðə'mæn/ the man	/i/ /ði'eɪp/ the ape
/ə/ /ə'mæn/ a man	
/ə/ /tə'rid/ to read	/u/ /tu'it/ to eat
/ə/ /'hwɛn jə'go/ when you go	/u/ /'hwɛn ju'it/ when you eat
/ə/ /'hwɛn də ðe'go/ when do they go?	/u/ /'hwɛn du jə'go/ when do you go?

Chapter 7

THE STRESS, RHYTHM, AND INTONATION PATTERNS IN ENGLISH

7.0. INTRODUCTION

While the different analyses of segmental phonemes in English, in spite of divergences in the treatment of vowel units, agree on many grounds, the analyses of English stress, rhythm, and intonation patterns differ greatly from one another.

In the following discussion, we shall make tentative remarks about inflection of the voice in the two languages: complex rise and fall, rhythm, lilt, tones, and the various kinds of signals that mark what is emphasised, what parts are joined together, and what parts are explicitly disjoined. Since this paper is neither an extensive analysis nor an evaluation of existing analyses of English, we will not have to ask ourselves whether stress, junctures, intonation patterns are *emes*⁴⁹ or just *emic*⁵⁰ features of hyperphonemes⁵¹ such as stress groups, pause groups, etc. Instead, we will merely adopt an analysis that seems to suit our contrastive purposes best.

7.1. STRESS

⁴⁹ An *eme* is an *emic* unit. The term is taken from Kenneth L. Pike, *Language* 5.1.

⁵⁰ The term *emic* is subtracted from *phonemic* by Pike, *Language*, chapter 2, p.8.

⁵¹ A hyperphoneme is a phonemic unit in the phonological hierarchy on a higher level than a phoneme (Pike, *Language* 8.442).

The term "stress" is used to refer to the relative prominence that is given, in both English and Vietnamese, to particular words in phrases, and in English but not in Vietnamese, to particular syllables in words.

7.1.1. Word stress

In English, there are three degrees of word stress: primary, secondary, and weak.⁵²

1. Primary stress

This is the degree of stress which falls on the first syllable of English /'diskəs/ 'discus', /'kanflikt/ 'conflict', or on the second syllable in /dɪ'skəs/ 'discuss', /kən'flikt/ 'conflict'. It is marked with a raised tick in front of the stressed syllable, as in the above examples.

2. Secondary stress

This is the degree of stress which falls on the first syllable of /,ovər'flo/ 'overflow', /,apə'reʃən/ 'operation'. A lowered tick is used to mark secondary stress, as recommended by the International Phonetics Association and used by Kenyon and Knott (*A Pronouncing Dictionary of American English*).

3. Weak stress

This is the degree of stress which falls on the first syllable of /dɪ'skəs/ 'discuss', /kən'flikt/ 'conflict', and on the second syllable of /'diskəs/ 'discus', /'kanflikt/ 'conflict'. Weak stress is usually unmarked. Where we wish to indicate stress patterns, we shall mark it with a hyphen; this is the way used by Moulton (*The Sounds...*).

7.1.2. Syntactic stress

A sentence like 'Jim stays here' can have the strongest stress on anyone of its three words, depending on the meaning conveyed. This strongest stress is marked with a small round symbol /°/ in front of

⁵² The postulation of three degrees of word stress is made by: Kenneth L. Pike, "A word has an innate, lexical, or prominent stress" (*Phonemics* etc., pp.45-46). "Words like *to separate* have a prominent primary stress, and a syllable somewhat prominent, probably because of its vocalic quality" (*The Intonation of American English*, p. 78). Charles F. Hockett, *A Course in Modern Linguistics*, pp.47-53. William G. Moulton, *The Sounds of English and German*, pp.113ff.

it.⁵³

°Jim stays here.

Jim °stays here.

Jim stays °here.

This type of stress is called syntactic stress. A hyperphoneme that contains a syntactic stress is a stress group (Pike, *Language* 9.3), or a rhythm unit. The following sentence can be said in two stress groups:

Mr and Mrs °White | stay in an old °castle.

Even the original short sentence can be spoken with two syntactic stresses, therefore with two stress groups. It would be said that way in slow speech.

°Jim | stays °here.

Although each word in a sentence can theoretically bear its own syntactic stress, in ordinary speech grammatical phrase units (see Chapter 3 in *English Grammar*) are rarely split into stress groups; they are rather pronounced in one stress group. The following sentence can be split into three stress groups, but hardly more than that:

They thought that the student was in°telligent.

They °thought | that the student was in°telligent.

They °thought | that the °student | was in°telligent.

7.2. RHYTHM

In English there is the basic pattern of somewhat-even timing of re-current stress groups which makes up the characteristic STRESS TIMING in the language. Pike says:

"The timing of rhythm units produces a rhythmic succession which is an extremely important characteristic of English phonological structure. The units tend to follow one another in such a way that the lapse of time between the beginning of their prominent syllables is somewhat uniform..."

The tendency toward uniform spacing of stresses in material which has uneven numbers of syllables within its rhythm groups can be achieved only by destroying any possibility of even time spacing of syllables. Since the rhythm units have different numbers of syllables, but a similar time value, the syllables of the longer ones are crushed together, and pronounced very rapidly, in order to get them pronounced at all, with that time limitation". (*Intonation...*, p.34.)

⁵³The postulation of this syntactic stress is done by Pike (*Intonation...* and *Phonemics*), Hockett (*A Course...*), and Moulton (*The Sounds...*).

This syntactic stress equals the primary stress in the analyses by Trager and Smith (*An Outline...*), Gleason (*An Introduction...*), W. Nelson Francis (*The Structure...*), and A.A. Hill (*Introduction...*).

This rhythmic crushing⁵⁴ of syllables into short time limits implies different lengths of English syllables because their lengths are controlled by the number of syllables in a particular rhythmic unit. For example, in the following sentences, the actual time between the two syntactic stresses remains approximately the same in spite of the difference in the number of intervening syllables:

The °boy | is a °student.
The °boy | is a good °student.
The °boy | is a very good °student.
The °boy | is not a very good °student.

7.3. INTONATION

While the term "stress" refers to the relative prominence of syllables in the flow of speech, the term "intonation" refers to patterns of voice pitch in speech, to the "up-down" dimension.

In English, "intonation" is "distributed over phrases" and gives "shades of meaning to phrases" (Pike, *Intonation...*, p.24). While the intonation patterns of English will be discussed in 9.3., only the degrees of pitch and terminal contours are presented here.

7.3.1. Terminal contours

Every stress group in English ends in one of three different terminal contours: falling, rising, and sustained.

EXAMPLES:

1. Falling terminal contour /+/

°Yes.
°John.
It's °snowing.

2. Rising terminal contour /↑/

°Yes?
°John?
It's °snowing?

3. Sustained terminal contour /||/

°Well...
°John...
°If it's snowing...

⁵⁴This phenomenon of different lengths of English syllables is called "isochronism" by Yao Shen and G.G. Perterson, who demonstrate that there is not such a thing in English: "We did not find isochronism in our limited data and therefore cannot say that there is isochronism in English". *Isochronism in English*.

In the falling terminal contour, the pitch of the voice is highest at the onset of syntactic stress, trails downward and then phases out at the end. It has a meaning of complete utterance.

In the rising terminal contour, the pitch of the voice is relatively high at the onset of syntactic stress, and it rises slightly at the very end. It has the typical meaning of "interrogation".

In the sustained terminal contour, the pitch of the voice is highest at the onset of syntactic stress, and it stays at the same level until phonation ceases. It marks an incomplete utterance.

7.3.2. Pitch levels

The pitches of intonation are relative, but the significance of pitches is determined by their height relative to one another.

In English, four relative but significant levels of pitch can be found. These levels may be labelled extra-high, high, mid, and low respectively, and may be numbered "four" to "one", beginning with "four", which is extra-high.

The following sentence contains mid, high, and low pitch levels:

2 ,it's 3 •'raining 1 +.

The extra-high pitch level occurs less frequently than the other three. It replaces the high pitch level to mark special or contrastive emphasis. For example, the above sentence can be pronounced with emphasis on *raining* as:

2 ,it's 4 •'raining 1 +.

(For different intonations in English, see Chapter 9.)

7.4. OPEN JUNCTURE

An open juncture is a gap of time between two phonemic words.⁵⁵ As examples where an open juncture is used to distinguish meaning, Hockett⁵⁶ cites the words:

/'nai,tret/ *nitrate*
 /'naⁱt + ,ret/ *night rate*
 /'nai + ,tret/ *Nye trait*

In the first example, there is no open juncture (or there is a close juncture), while in the other two examples, there is an open (or plus) juncture after, and before /t/. The first example is one phonemic word,

⁵⁵Trager and Smith, *English structure*, p.49.

⁵⁶A Course..., pp.54ff.

while each of the other two examples constitutes two phonemic words.

Phonemic words in English can be monosyllabic, or polysyllabic.

Chapter 8

THE STRESS, RHYTHM, TONE, AND INTONATION PATTERNS IN VIETNAMESE

8.1. STRESS

While in English, there are both word stress and sentence stress, in Vietnamese, there is only sentence stress | , i.e. where the peak of stress is determined not by lexical considerations but merely by emphasis, attention, and the like.

There are two degrees of sentence stress in Vietnamese:⁵⁷ primary (marked with a round symbol /°/ in front), and weak (unmarked).

EXAMPLES:

/toj xǎwŋ °di/ tôi không đi *I'm not going. (I not go.)*

8.2. RHYTHM

In Vietnamese, there is a very pronounced difference in intensity between primary and weak stresses, and also, weak stress is accompanied

⁵⁷ Laurence C. Thompson, in "Saigon Phonemics", 1959, posits four degrees of stress. In a more recent work, *A Vietnamese Grammar*, 1965, he proposes three stress distinctions for both Hanoi and Saigon speeches. He says: "What I earlier called extra-loud stress is an extra-loud variant of heavy stress accompanying increasing intonation" - footnote 9, p.93.

Since there is only sentence stress, and not word stress in Vietnamese, the recognition of only two degrees of stress would be enough on the phonemic level. The analytical consequence would then be that there are as many stress groups in a pause group as there are primary stresses.

For the reduction of the English stress system into two degrees of stress, see Noam Chomsky, Morris Halle, and Fred Lukoff, "On Accent and Juncture in English", Morris Halle, Horace G. Lunt and Hugh McLean (editors). *For Roman Jakobson*, Mouton and Co., 1956, pp.68-80.

by very short syllables. Thus, conversational language gives a synco-pated rhythmic impression.

8.3. TONE SYSTEM

Standard Saigon Vietnamese tones are defined by a combination of three relative pitch heights - high, mid, low - and contours - rising, falling. There are five tones which can be regrouped into the group of three rising tones, and the group of two level tones:

(a) The group of rising tones:

The high rising tone (sắc), represented by /'/.
/la'/' là 'leaf', /ma'/' má 'mother'.

The mid rising tone (hỏi), represented in transcriptions of pronunciation by the tilde /~/, and marked in the traditional Vietnamese spelling by ̣ or ̣. (In the Northern dialects, there are two phonemic tones: hỏi (̣), mid-low dropping pitch, and ngã, high rising pitch, accompanied by glottal stop or "strangled" vowel quality. See Thompson *A Vietnamese grammar*, pp.15-16.

/la~/ là 'pure', /ma~/ mã 'tomb'.

The low rising tone (ngã), represented by /˘/, and marked in traditional Vietnamese spelling by a dot /./ underneath the vowel letter.

/la˘/ là 'stranger', /ma˘/ mã 'rice plant'.

(b) The group of level tones:

The high level tone (không) or (ngang), unmarked.

/la/ là 'scream', /ma/ mã 'ghost'.

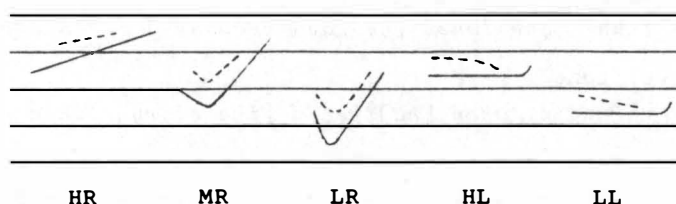
The low level tone (huyền), represented by /ˉ/.

/laˉ/ là 'be', /maˉ/ mã 'but'.

The five tones are manifested by two sets of allotones, according to whether the syllables that carry them are stressed or unstressed. The characteristics of the sets of allotones can be summarised in the following chart:

	STRESSED	UNSTRESSED
RISING TONES	longer and higher rise	shorter rise
LEVEL TONES	longer-level or rising slightly	shorter-level or falling slightly

The tones, with their stressed and unstressed allotones, can be re-presented on a pitch scale as follows:



HR = High Rising; MR = Mid Rising; LR = Low Rising; HL = High Level;
LL = Low Level.

Unstressed allotone -----

Stressed allotone _____

8.4. INTONATION

Besides the phonemic tones to distinguish meanings of words, Vietnamese has also different intonation patterns to convey "shades of meaning to phrases" (Pike, *Intonation of American English*, p.24), or certain general attitudes of speakers toward what they are saying.

There are four phonemic intonation patterns in Vietnamese which are characterised mainly by the shape of their final tone: sustained declarative (or "falling"); interrogative (or "rising"); and imperative (or "rising-falling").

8.4.1. Sustained Intonation

Like the English sustained intonation contour (cf. 7.3.1.), the Vietnamese sustained intonation pattern conveys the notion that the speaker has not completed his speech, or that he has been interrupted by some thought or external stimulus, or simply that he wants to leave something to be understood. The sustained intonation pattern is characterised by the shape of the final tone which is summarised in the following chart:

FINAL TONE	SUSTAINED INTONATION PATTERN
Rising tones	rising and relatively long
Level tones	level or rising towards the end

EXAMPLES with:

(1) high rising tone

/xi ăj'/ khi ấy 'at that time (when then)'

(2) mid rising tone

/xi·pə~/ khi nhỏ 'when [he was] young (when young)'

(3) low rising tone

/xi mǎn\ / khi mạnh 'when [he was] recovered (when strong)'

(4) high level tone

/xi ɲɛ / khi nghe 'when [he] heard [the story] (when hear)'

(5) low level tone

/xi ɲɛw' / khi nghèo 'when [he was] poor (when poor)'

8.4.2. Declarative (or "falling") Intonation

The Vietnamese declarative (or "falling") intonation pattern marks completion of speech. It is typical of declarative sentences. It is characterised by the shape of the final tone which is summarised in the following chart:

FINAL TONE	DECLARATIVE INTONATION PATTERN
Rising tones	short rising, usually higher than previous similar tones
Level tones	relatively lower and falling

EXAMPLES with:

(1) high rising tone

/toj ɲɛ^h ăj' / tôi thấy 'I saw [it] (I see)'

(2) mid rising tone

/toj ɲɛⁱ / tôi nghĩ 'I thought (I think)'

(3) low rising tone

/toj ɲɛ^s / tôi sợ 'I was afraid (I afraid)'

(4) high level tone

/toj ɲɛ / tôi nghe 'I heard [it] (I hear)'

(5) low level tone

/toj ɲɛw' / tôi nghèo 'I [am] poor (I poor)'

8.4.3. Interrogative (or "rising") Intonation

The Vietnamese interrogative (or "rising") intonation pattern is typical of information interrogative sentences. It can also be used to mark doubtful statements, indecisive imperatives or exhortations. It is characterised by the shape of the final tone which is summarised in the following chart:

FINAL TONE	INTERROGATIVE INTONATION PATTERN
Rising tones	relatively higher and longer rising than previous similar tones
Level tones	level and slightly rising at the end

EXAMPLES with:

- (1) high rising tone

/aj·t^hâj'/ ai thấy 'who saw [it] (who see)'

- (2) mid rising tone

/aj·ŋi~/ ai nghĩ 'who thought (who think)'

- (3) low rising tone

/aj·sơ~/ ai sợ 'who [was] afraid (who afraid)'

- (4) high level tone

/aj·ŋe/ ai nghe 'who heard [it] (who hear)'

- (5) low level tone

/aj·ŋew'/ ai nghèo 'who [was] poor (who poor)'

8.4.4. Imperative (or "rising-falling") Intonation

The Vietnamese imperative (or "rising-falling") intonation pattern signals commands, exhortations, imperatives. As other intonation patterns, it is characterised by the shape of the final tone which is summarised in the following chart:

FINAL TONE	IMPERATIVE INTONATION PATTERN
Rising tones	rising, and trailing towards the end
Level tones	long level, and slightly rising

EXAMPLES with:

- (1) high rising tone

/an mua·nơ~/ anh mua nón 'you buy a hat! (elder-brother buy hat)'

- (2) mid rising tone

/an mua·t^hở~/ anh mua thỏ 'you buy rabbits! (elder-brother buy rabbit)'

- (3) low rising tone

/an mua·lơ~/ anh mua lợn 'you buy swine! (elder-brother buy swine)'

(4) high level tone

/an muə ˈse/ anh mua xe 'you buy a car! (elder-brother buy carriage)'

(5) low level tone

/an muə ˈdeŋ/ anh mua đèn 'you buy a torch! (elder-brother buy torch)'

8.4.5. Other Intonational Features

Vietnamese speakers make use of a generally higher level of pitch for an utterance to convey emotional intensity.

Chapter 9

CONTRASTIVE ANALYSIS: STRESS, RHYTHM, AND INTONATION PATTERNS

9.0. INTRODUCTION

Suprasegmental patterns (stress, rhythm, and intonation) in English constitute probably the most difficult pronunciation problems for Vietnamese students to master. This is because of the transfer of their native tonal system into English, which is an intonation language.

In order to find out more accurately learning problems of stress, rhythm, and intonation patterns of English for Vietnamese speakers, a passage from Ernest Hemingway's *A Farewell to Arms*, Jonathan Cape Publishers, London, pages 66-7, was chosen as a pronunciation test. The seventeen Vietnamese students and four native speakers of American English (see 3.0.4.) were recorded. The recordings of the four most representative Vietnamese speakers and two English speakers have been put down on recording paper through a transpitchmeter, and intensity meter, and a Brush oscillograph recorder at the Linguistic Laboratory of the Australian National University. The intensity and the pitch curves of the Vietnamese speakers were then compared with those of the English speakers. Measurements were not done because they were thought to be unnecessary for the present purposes. The results of the findings will be stated in the column "Problems".

In discussing contrastive suprasegmental patterns, we shall deal with four different aspects of consideration: (1) the suprasegmental pattern; (2) the corresponding Vietnamese pattern if any; (3) the teaching and learning problem; (4) suggested drills.

9.1. STRESS

9.1.1. Word Stress

1. E. - English has three degrees of word stress: primary, secondary, and weak (cf. 7.1.1.).

2. V. - Vietnamese has no different degrees of word stress (cf. 8.1.).

3. Problems:

Vietnamese students will have to learn the three degrees of word stress in English. (There is no point in counting the actual mistakes made by the students in the tests, because the number of mistakes depends upon the degree of knowledge of English of each student.)

4. Drills:

The following different stress patterns in English can be presented to the students:

Primary and weak stresses

Two-syllable stems with primary stress on the first syllable, and weak stress on the second:

Type /'-/ *butter open apple often*

One- or two-syllable stems with various unstressed inflectional and derivational suffixes, giving stress patterns:

Type /'-/ *houses heated shining freely*

Type /'--/ *hammering hopefully carefully glamorous*

Two-syllable stems with weak stress on the first syllable, and primary on the second:

Type /-'/ *begin forgive receive along*

Type /-'-/ *beginning forgotten receiving together*

Primary and secondary stresses

The typical stress pattern for compound words in English:⁵⁸ primary stress on the first part, and secondary stress on the second part:

Type /',/ *redcap railroad doorknob teaspoon pigeon-toed
applesauce*

The less common stress pattern: secondary stress on the first part, primary stress on the second part:

Type /,'/ *New York renew untie understand overcome nevermore*

Primary and primary stresses

A third type of compound has the structure: primary stress on the first part, and primary stress on the second part:

Type /''/ *snow-white open-eyed ice cold*

⁵⁸ See Hand Marchand "Notes on Nominal Compounds in Present-day English", in Harold B. Allen (editor), *Applied English Linguistics*, Appleton-Century-Crofts, Inc., New York, 1958, pp.118-27.

Secondary or weak stress in some word classes

English has some classes of words which bear secondary or weak stress rather than primary stress:

Personal pronouns:	/,hi ə'steɪz/	he stays
Conjunctions:	/,ɪf i ə'steɪz/	if he stays
Prepositions:	/,ɪn ðə ə'hauz/	in the house
Articles:	/ðə ə'hauz/	the house

A few words of this type show unstressed forms with their vowels reduced to /ə/ or /ɪ/:

<u>and</u>	/'ju ən ə'aɪ/	you and I
<u>them</u>	/'pʊt əm ə'daʊn/	put them down
<u>him</u>	/'tel ɪm ə'so/	tell him so

Stress patterns of nouns versus verbs⁵⁹

Type /'-/ (nouns)	Type /-'/ (verbs)
address	address
conflict	conflict
contract	contract
converse	converse
impact	impact

Succession of stresses

The students should learn to have the right stresses in polysyllabic words. Examples:

/,-'-/	philosophic
/,--'--/	anthropological
/-,-'-/	matriculation
/-,-'-/	assimilation
/-,----'-/	Americanisation

Stress shift

English has a large number of words in which primary stress shifts toward the end when a suffix is added:

'atom - a'tomic	'object - ob'jective	'energy - ener'getic
'subject - sub'jective	'influence - influ'ential	'courage - cou'rageous

9.1.2. Syntactic stress

1. E. - English has one syntactic stress (cf. 7.1.2.).
2. V. - Vietnamese has one syntactic stress, which is its primary

⁵⁹ See Harold Whitehall, *Structural Essentials of English*, Harcourt, Brace and Co., New York, pp.20ff.

stress (cf. 8.1.).

3. Problems:

Although the syntactic stress exists in both languages, it is much more frequent in Vietnamese than in English. Thus, the students should learn to have the English syntactic stress only where it is possible, and to reduce the number of syntactic stresses in fast speech.

4. Drills:

The reduction of syntactic stresses can be presented as in the following example:

They °thought / that the °student / was in°telligent.

They °thought / that the student was in°telligent.

They thought that the student was in°telligent.

9.2. RHYTHM

1. E. - In English, there is the basic pattern of somewhat even timing of recurrent stress groups which makes up the characteristic STRESS TIMING in the language (cf. 7.2.).

2. V. - Conversational Vietnamese gives a syncopated rhythmic impression (cf. 8.2.).

3. Problems:

Vietnamese speakers tend to transfer their syncopated rhythmic pattern into English, and therefore do not have the right English stress timing rhythm.

4. Drills:

The English stress timing rhythm can be taught by pronunciation drills which the students are asked to pronounce in such a way that the lapse of time between two syntactic stress peaks remains the same regardless of the number of unstressed syllables in between them. For example, the students will have to pronounce the following sentences in about the same gap of time marked by two beats:

The °boy / is a °student.

The °boy / is a good °student.

The °boy / is a very good °student.

The °boy / is not a very good °student.

If needed, the stress group tempo in English may be represented graphically (the length of underline indicating syllable duration) for explanation as follows:

The °boy / is not a very good °student.

9.3. INTONATION

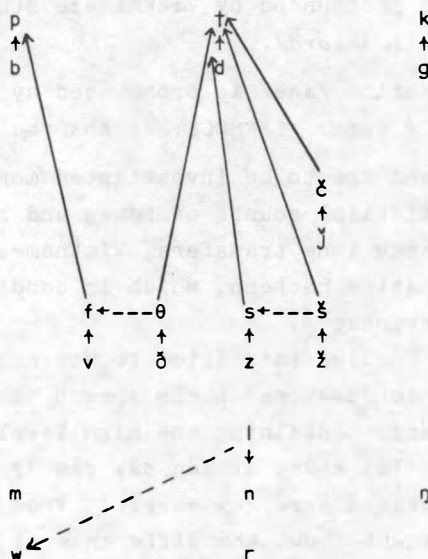
1. E. - English is an intonation language, and has three terminal contours and four pitch levels (cf. 7.2.).

2. V. - Vietnamese is a tone and intonation language (cf. 8.3. and 8.4.).

3. Problems:

Vietnamese students tend to transfer their tone system into an intonation language when they speak English. In this interference of their native language and the target language, the phonetic laws of English final consonant replacements in Vietnamese speakers' English (cf. 3.2.2.2.) play an important rôle in the intonation patterns.

The phonetic laws of English final consonant replacements are as follows:



Law 1: Voiced consonants, except nasals, are replaced by their voiceless counterparts.

Law 2: Final fricatives and affricates are replaced by final stops which are similar in terms of point of articulation.

Law 3: Final /l/ is usually replaced by final /n/, and sometimes by /w/.

Law 4: There are some less common patterns of substitution: /l/ is sometimes replaced by /w/, /θ/ by /f/, /ʒ/ by /s/, and /ʃ/ by /ʒ/.

In combining laws 1 and 2, one finds that all English voiced stops (law 1), voiceless fricatives (law 2), and voiced fricatives (laws 1 and 2) are actually replaced by voiceless stops. (This is understandable

because Vietnamese has only voiceless stops, and voiced nasals as final consonants.)

Now, Vietnamese has only two tones in words ending with a voiceless stop: the high rising tone /' /, and the low rising tone /' ' /. In the transfer of the Vietnamese tone systems into English intonation, for reasons, perhaps phonetic or statistical, that have to be investigated, only the high rising tone is chosen in words ending with a voiceless stop, or any stop or fricative that has been replaced by a voiceless stop. Thus, an English sentence like the following one is very likely pronounced by a Vietnamese beginning student with a series of high rising tones as:

If you mét thát man, you wóuld think thát he wás mád.

There are other tone applications like:

1. English /ə/ is pronounced by Vietnamese students with a low rising tone. EXAMPLE: /həɖ' / 'heard'.

2. English combination /ans/ is pronounced by Vietnamese students with a mid rising /~ / tone. EXAMPLE: /trans~fəɖ' / 'transferred'.

All these phenomena are to be investigated more in detail, perhaps in the light of statistical counts of tones and syllables.

As a result of these tone transfers, Vietnamese speakers have a peculiar English intonation pattern, which is conditioned only by the syllables in their utterances.

One way to teach English intonation to Vietnamese is to begin by asking the students to "de-tone" their speech habit, i.e. to produce long Vietnamese phrases containing the high level tone. EXAMPLE: /toj xəwŋ di len daj dāw/ Tôi không đi lên đây đâu 'I am not coming up here any more (I not go ascend here any more).' From this example, the students are then taught about the difference of intonation and tone. Once they can produce a series of level tone syllables, they can learn the four pitch levels in English.

4. Drills:

The following intonation patterns in English are to be taught:

The intonation / (2) • 3 1 + /

The intonation pattern / (2) • 3 1 + / has the meaning of statement:

²,it-s • ³,raining ¹↓.

²,it • ³,rains ¹↓.

• ³,come ¹↓.

The intonation / (2) 3 • 1 1 + /

The intonation / (2) 3 • 1 1 + / is also used in statements, but it is less common than the previous one:

²,it, was an ³ex'tremely 'nice ⁰1,'party ¹↓.

The intonation /(2) °3 3 ↑/

The intonation /(2) °3 3 ↑/ is used in yes-no interrogative sentences:

²,is, his ⁰3,'uncle 'there ³↑.

²,his ⁰3,'uncle, is 'there ³↑.

⁰3,'yes ³↑.

The intonation /(2) °3 3 | 3°1 1 ↑/

The intonation /(2) °3 3/ plus /1/ plus /3 °1 1 ↑/ occurs in alternate questions:

²,is, it ⁰3,'good ³ | ³,or, is it ⁰1,'bad ↑¹ .

The intonation /(3) °2 3 ↑/

The intonation /(3) °2 3 ↑/ is less commonly used for yes-no interrogative sentences:

³,is, his ⁰2,'uncle there ³↑.

The intonation /(1) °1 1 ↑/

The intonation /(1) °1 1 ↑/ is used in clauses that identify the speaker of what precedes:

²,it-s ⁰3,'raining ¹ | ,said, his ⁰1,'neighbour ¹↓.

All these intonation patterns can be taught first in short sentences, and later in longer sentences.

9.4. OPEN JUNCTURE

1. E. Phonemic words in English can be monosyllabic or polysyllabic. They are delimited by an open juncture before and after them.

2. V. Vietnamese phonemic words are always monosyllabic. They are delimited by an open juncture before and after them.

3. Problems:

Vietnamese students tend to cut polysyllabic phonemic words in English into as many phonemic words as there are syllables.

4. Drills:

Drills should be prepared to teach Vietnamese students to pronounce each English polysyllabic word only in one stretch, and not to have open junctures after each syllable. The most important correlation of the open juncture in English is the fact that /p t k/ are aspirated when

they stand in open juncture with a preceding phoneme, or when they stand at the beginning of an utterance. Thus, such contrasts as the following, in which the open juncture and aspiration are written in the transcription, can be used to teach the correlation of the open juncture and aspiration:

ASPIRATED	UNASPIRATED
/,mai + 't ^h ren/ <i>my train</i>	/,mait + 'ren/ <i>might rain</i>
/'nait + 'ret/ <i>night rate</i>	/'nai + 'tret/ <i>Nye trait</i>
/,ðɪs + 'p ^h ɪn/ <i>this pin</i>	/,ðe + 'spɪn/ <i>the spin</i>
/,ðɪs + 'p ^h at/ <i>this pot</i>	/,ðe + 'spat/ <i>the spot</i>

CONCLUSION

In this contrastive phonological analysis, teaching and learning problems of English pronunciation for Vietnamese students, together with suggested drills, have been presented in the analytical order of consonants, consonant clusters, vowels, etc. In the writing of textbooks, the writer should adopt a philosophy of approach to these teaching problems in order to present them in a valid pedagogical sequence, following some hierarchy of difficulty.

The first question which arises is the place of pronunciation in the general foreign language teaching programme. In learning a new language, the chief problem is not at first that of learning vocabulary items. It is, as Fries says:

"...first, the mastery of the sound system - to understand the stream of speech, to hear the distinctive sound features and to approximate their production".⁶⁰

This does not mean that pronunciation should be taught at any time for long to the exclusion of grammatical structure and lexical items. Complete control of the phonological pattern of English alone would not allow a student to communicate with anyone, if it were not accompanied by a certain degree of mastery of the grammatical structure and of at least a limited vocabulary. The argument is that phonological training is most effective in the early stage of the student's acquaintance with the language. He is bound to have habits of pronunciation formed; unless they are correct habits, they will have to be unlearned later, which is not an easy process.

⁶⁰ Charles C. Fries, *Teaching and Learning English as a Foreign Language*, p.3.

The next question is the setting of a valid pedagogical sequence for the teaching of pronunciation, following some hierarchy of difficulty.

In general classification, there are two kinds of teaching and learning difficulties to be overcome: segmental problems, and suprasegmental problems.

In the treatment of segmental problems, it is important to correct the critical errors first (phonemic problems that cause misunderstanding), and to move on less critical areas (phonetic problems that result in a heavy foreign accent) only after the critical ones have begun to be under habitual mastery by the students. It is also important to take into account the relative order of difficulty of the problems (which is reflected in the percentages of mistakes shown in the results of the different recognition or production tests) in the arrangement of lessons. Besides the presentation of the different problems according to their nature and relative order of difficulty, there is also the grouping of the problems into groups like voiceless stops, voiced stops, voiceless fricatives, voiced fricatives, etc.: this will help the students to see and acquire the sound patterning in English.

The relative frequency of occurrence of English speech sounds, which is an indicator of their functional load, can be thought of as having an important part in the preparation of English pronunciation lessons for Vietnamese. Do we need more lessons to deal with sounds with high frequency, as they are the ones the students will commonly come across? In drill lessons, the relative frequency factor can be neglected, because there will be no omission of any sound in the foreign language one wants to learn. On the contrary, a pair of contrasts, like /ð/ and /θ/ - voiced and voiceless fricatives - should be drilled together, no matter how far from each other they rank in the order of frequency.

Finally, the grouping of lessons into chapters on strong-stressed vowels and diphthongs, initial consonants, final consonants, initial clusters, final clusters, and weak stressed vowels, as adopted in my previous book, *English Pronunciation for Vietnamese*, SEAREP-USOM, Saigon, 1962, can still be recommended.

During correction of segmental elements, one of course never neglects suprasegmental elements. In fact, the problems of rhythm, intonation patterns, stress, and the like should be dealt with as one goes along with segmental sounds. Early in the pronunciation course, simple intonation patterns, stress, and rhythm should be presented to the students. These factors (complex rise and fall, rhythm, lilt, and the various kinds of signals that mark elements which are emphasised, disjoined, or joined together) should be the first things to be noticed by the students at the very beginning of their studies. And since no utterance can be made in any language without its carrying an intonation pattern (the

components of which are all together stress, pitch, rhythm, and terminal contours in English), at least some basic suprasegmental patterns should be mastered before one learns segmental sounds.

In conclusion, a serious foreign language programme should be based upon a linguistically oriented contrastive analysis of the language to be learned and the language of the learner, and prepared according to a valid pedagogical sequence. But in order to be fully successful, a language course needs the willingness of the student who must throw off all restraint and self-consciousness as far as the mimicry of strange sounds and the acceptance of unfamiliar grammatical structures are concerned. Only when all these technical and mental requirements are met, will the teaching and learning of a foreign language get good results.

APPENDIX I

ENGLISH PRONUNCIATION FOR VIETNAMESE

STEP ONE: TESTS OF RECOGNITION

FOREWORD AND ACKNOWLEDGMENTS

The aim of these tests of recognition is to find out English Midwest Standard American English pronunciation problems for native speakers of Vietnamese (with main emphasis on the Saigon dialect). The problems, to be graded according to their degree of difficulty, will be taken into account in the writing of English text-books and pronunciation tests for Vietnamese.

The ideal situation, thus, would be to administer the tests to students without a background in French, or at least who do not go to French high schools and who, in the majority, speak the *Southern Vietnamese dialect*.

The tests are to be administered to two groups of students:

the beginners, i.e. those who have not had more than one year of English at the V.A.A.;

the advanced students, i.e. those who are in grade twelve or higher.

The number of students to be tested is from 40 to 80 for the beginning group, and from 15 to 30 for the advanced group, although the more students we can have, the more accurate the findings will be.

The approximate time for each part of the tests is given in the Examiner's Instructions.

I would like to acknowledge my deepest obligations to the staff of the Vietnamese American Association to carry on the actual work of administering the tests to their students, and express my particular

thanks to Mr William L. Woolf, Director of Courses at the V.A.A., to whom I owe a lot of advice and help and without whom, the realisation of this project would not be possible. Thanks are due also to the students who are willing to participate in the tests.

Canberra, 20 August 1964

Nguyễn Đăng Liêm

ENGLISH PRONUNCIATION FOR VIETNAMESE

STEP ONE: TESTS OF RECOGNITION

THE EXAMINER'S BOOKLET

INSTRUCTIONS

These tests should be administered by a native speaker of Standard American English. They should be read in *clear natural style*, differences should not be exaggerated or minimised in any way. The items should be read *only once*. Each word must be read with the *same intonation*, preferably a falling high-low type.

The tests should be given to small groups of up to thirty students. They should not be given to larger groups unless the room has exceptionally good acoustics (the large auditorium at the third floor of the V.A.A. building meets the requirements). The different parts of the tests can be given to the same group of students on different days.

Proceed as follows:

1. Seat the students not closer than in every other seat.
2. Distribute the answer sheet to the students.
3. Ask the students to write down their name, sex, age, and their Vietnamese dialect: Southern, Central or Northern.
4. Ask them to write down your name and native State.
5. Read to them the following instructions and examples:

THIS EXERCISE IS TO DISCOVER ENGLISH SOUNDS THAT YOU CAN HEAR CLEARLY. PLEASE ANSWER EVERY QUESTION.

PART ONE

Time: approximately 20 minutes.

I AM GOING TO READ THREE WORDS. CHECK WHICH WORD IS DIFFERENT.

EXAMPLE A: *read, rid, read*. (brief pause)

THE WORD NUMBER TWO IS DIFFERENT. CHECK TWO.

EXAMPLE A: 1 ()
2 (✓)
3 ()

EXAMPLE B: *shoed, should, should.* (brief pause)

THE WORD NUMBER ONE IS DIFFERENT. CHECK ONE.

EXAMPLE B: 1 (✓)
2 ()
3 ()

EXAMPLE C: *mat, mat, mate.*

THE WORD NUMBER THREE IS DIFFERENT. CHECK THREE.

EXAMPLE C: 1 ()
2 ()
3 (✓)

Repeat the examples if the students still do not understand the procedure.

Read the numbers and the following triplets of words:

- | | |
|--------------------------------------|-------------------------------------|
| 1. <i>meet, mitt, mitt</i> | 23. <i>rice, race, race</i> |
| 2. <i>pen, pan, pen</i> | 24. <i>load, loud, loud</i> |
| 3. <i>look, look, luck</i> | 25. <i>wake, week, wake</i> |
| 4. <i>main, mine, mine</i> | 26. <i>hat, hat, hot</i> |
| 5. <i>seen, seen, sin</i> | 27. <i>caught, caught, coat</i> |
| 6. <i>fan, fen, fan</i> | 28. <i>no, now, now</i> |
| 7. <i>buck, book, book</i> | 29. <i>cud, cud, kid</i> |
| 8. <i>time, time, tame</i> | 30. <i>read/iy/, rade, read/iy/</i> |
| 9. <i>load, loud, loud</i> | 31. <i>cot, cat, cot</i> |
| 10. <i>ship, sheep, sheep</i> | 32. <i>hole, hall, hall</i> |
| 11. <i>men, man, man</i> | 33. <i>hit, hut, hut</i> |
| 12. <i>tuck, took, tuck</i> | 34. <i>boy, buy, boy</i> |
| 13. <i>might, mate, mate</i> | 35. <i>bate, beat, beat</i> |
| 14. <i>town, town, tone</i> | 36. <i>not, gnat, not</i> |
| 15. <i>sit, seat, sit</i> | 37. <i>naught, note, naught</i> |
| 16. <i>bet, bet, bat</i> | 38. <i>knit, nut, nut</i> |
| 17. <i>cud, cud, could</i> | 39. <i>shut, shut, shirt</i> |
| 18. <i>ride, ride, raid</i> | 40. <i>mate, mate, meet</i> |
| 19. <i>bow/ow/, bow/aw/, bow/aw/</i> | 41. <i>lack, lock, lack</i> |
| 20. <i>feet, fit, feet</i> | 42. <i>phone, faun, faun</i> |
| 21. <i>sat, set, set</i> | 43. <i>but, but, bit</i> |
| 22. <i>rough, roof, roof</i> | 44. <i>hut, hurt, hut</i> |

- | | |
|----------------------------|-----------------------------|
| 45. fate, feet, feet | 78. net, net, nut |
| 46. cap, cop, cap | 79. pan, pun, pun |
| 47. call, call, coal | 80. ten, tin, tin |
| 48. suck, sick, sick | 81. naught, naught, nut |
| 49. bird, bud, bud | 82. good, goood, goood |
| 50. pain, pain, pen | 83. bet, but, but |
| 51. cot, cut, cot | 84. gnat, nut, gnat |
| 52. full, full, foal | 85. beg, big, beg |
| 53. burg, bug, bug | 86. fun, faun, fun |
| 54. sin, sin, sane | 87. wood, wood, wooed |
| 55. bate, bet, bate | 88. tan, tan, ton |
| 56. lock, lock, luck | 89. poise, pies, pies |
| 57. code, could, could | 90. mitt, mitt, met |
| 58. curt, curt, cut | 91. bought, but, but |
| 59. bane, bin, bin | 92. full, full, fool |
| 60. date, debt, debt | 93. mad, mud, mud |
| 61. hot, hut, hot | 94. Royce, Royce, rice |
| 62. showed, should, showed | 95. Jim, gem, Jim |
| 63. pain, pin, pin | 96. call, call, cull |
| 64. bet, but, but | 97. should, shoed, should |
| 65. tell, tale, tell | 98. hut, hat, hat |
| 66. luck, lock, lock | 99. toys, toys, ties |
| 67. pull, pull, pole | 100. naught, naught, not |
| 68. cane, Kin, cane | 101. foal, fool, fool |
| 69. pun, pen, pen | 102. caught, cot, cot |
| 70. let, let, late | 103. cooed, cooed, code |
| 71. rot, rut, rut | 104. bought, bot, bought |
| 72. stowed, stood, stowed | 105. shoed, shoed, shod |
| 73. wain, win, wain | 106. sought, sought, sot |
| 74. ten, ton, ten | 107. pale, pool, pale |
| 75. bid, bed, bid | 108. not, naught, naught |
| 76. cut, caught, caught | 109. stowed, stowed, stewed |
| 77. soot, suit, soot | 110. toy, toy, tie |

PART TWO

Time: approximately 20 minutes.

I AM GOING TO READ THREE WORDS. CHECK WHICH WORD IS DIFFERENT.

EXAMPLE A: *pine, pine, fine.* (brief pause)

THE WORD NUMBER THREE IS DIFFERENT. CHECK THREE.

- EXAMPLE A: 1 ()
 2 ()
 3 (✓)

EXAMPLE B: *pill, bill, pill.* (brief pause)

THE WORD NUMBER TWO IS DIFFERENT. CHECK TWO.

EXAMPLE B: 1 ()

2 (✓)

3 ()

EXAMPLE C: *put, foot, foot.* (brief pause)

THE WORD NUMBER ONE IS DIFFERENT. CHECK ONE.

EXAMPLE C: 1 (✓)

2 ()

3 ()

Repeat the examples if the students do not understand the procedure.

Read the numbers and the following triplets of words:

- | | |
|---|---------------------------------------|
| 1. <i>vile, file, file</i> | 29. <i>chin, tin, tin</i> |
| 2. <i>thing, thing, sing</i> | 30. <i>dill, dill, till</i> |
| 3. <i>doe, though, though</i> | 31. <i>vet, yet, yet</i> |
| 4. <i>sing, zing, sing</i> | 32. <i>zen, zen, then</i> |
| 5. <i>pill, bill, bill</i> | 33. <i>rear, year, year</i> |
| 6. <i>feel, feel, veal</i> | 34. <i>chop, chop, top</i> |
| 7. <i>sought, thought, thought</i> | 35. <i>town, down, town</i> |
| 8. <i>dare, dare, there</i> | 36. <i>vest, vest, yessed</i> |
| 9. <i>Sue, zoo, Sue</i> | 37. <i>the/ðiy/, z/ziy/, the/ðiy/</i> |
| 10. <i>Paul, Paul, ball</i> | 38. <i>rung, young, young</i> |
| 11. <i>veil, fail, veil</i> | 39. <i>chill, chill, till</i> |
| 12. <i>sick, sick, thick</i> | 40. <i>dip, tip, tip</i> |
| 13. <i>day, they, day</i> | 41. <i>ye, v/viy/, v/viy/</i> |
| 14. <i>zinc, zinc, sink</i> | 42. <i>joke, joke, choke</i> |
| 15. <i>big, pig, big</i> | 43. <i>rail, wail, wail</i> |
| 16. <i>vine, fine, fine</i> | 44. <i>than, than, van</i> |
| 17. <i>seem, seem, theme</i> | 45. <i>could, good, good</i> |
| 18. <i>Dan, than, than</i> | 46. <i>theme, theme, team</i> |
| 19. <i>zone, zone, sown</i> | 47. <i>jest, chest, jest</i> |
| 20. <i>push, push, bush</i> | 48. <i>red, red, wed</i> |
| 21. <i>van, fan, van</i> | 49. <i>they'll, veil, they'll</i> |
| 22. <i>zen, then, then</i> | 50. <i>cane, cane, gain</i> |
| 23. <i>rot, rot, yacht</i> | 51. <i>tick, thick, thick</i> |
| 24. <i>tip, chip, tip</i> | 52. <i>chain, chain, Jane</i> |
| 25. <i>tall, doll, doll</i> | 53. <i>rade, wade, wade</i> |
| 26. <i>Yale, Yale, veil</i> | 54. <i>vow, vow, thou</i> |
| 27. <i>thee/ðiy/, z/ziy/, thee/ðiy/</i> | 55. <i>call, gull, call</i> |
| 28. <i>rail, rail, Yale</i> | 56. <i>taught, taught, thought</i> |

- | | |
|------------------------------------|---------------------------------------|
| 57. <i>chill, fill, chill</i> | 82. <i>z/ziy/, gee, z/ziy/</i> |
| 58. <i>wide, wide, ride</i> | 83. <i>chip, chip, sip</i> |
| 59. <i>veil, they'll, they'll</i> | 84. <i>west, vest, west</i> |
| 60. <i>coat, goat, goat</i> | 85. <i>feet, Pete, Pete</i> |
| 61. <i>term, term, therm</i> | 86. <i>there, there, Thayer/ther/</i> |
| 62. <i>ship, chip, ship</i> | 87. <i>zip, zip, gyp</i> |
| 63. <i>jet, debt, debt</i> | 88. <i>chin, chin, sin</i> |
| 64. <i>rack, rack, lack</i> | 89. <i>vein, wane, wane</i> |
| 65. <i>bail, veil, veil</i> | 90. <i>fit, fit, pit</i> |
| 66. <i>firm, firm, therm</i> | 91. <i>Thayer, there, there</i> |
| 67. <i>shin, chin, shin</i> | 92. <i>gink, gink, zinc</i> |
| 68. <i>Jane, Dane, Dane</i> | 93. <i>chain, sane, sane</i> |
| 69. <i>reap, leap, reap</i> | 94. <i>sake, sake, shake</i> |
| 70. <i>bane, vane, bane</i> | 95. <i>fun, pun, fun</i> |
| 71. <i>thought, fought, fought</i> | 96. <i>Thayer, Thayer, there</i> |
| 72. <i>cheat, cheat, sheet</i> | 97. <i>gyp, zip, zip</i> |
| 73. <i>Jill, dill, Jill</i> | 98. <i>seat, cheat, seat</i> |
| 74. <i>lane, lane, rain</i> | 99. <i>shin, sin, shin</i> |
| 75. <i>van, ban, ban</i> | 100. <i>pace, face, face</i> |
| 76. <i>thill, fill, thill</i> | 101. <i>Thayer, there, Thayer</i> |
| 77. <i>chair, chair, share</i> | 102. <i>wail, veil, veil</i> |
| 78. <i>due, Jew, Jew</i> | 103. <i>seat, seat, sheet</i> |
| 79. <i>read, lead, lead</i> | 104. <i>vine, wine, wine</i> |
| 80. <i>boat, boat, vote</i> | 105. <i>sip, sip, ship</i> |
| 81. <i>foal, thole, thole</i> | |

PART THREE

Time: approximately 25 minutes.

I AM GOING TO READ THREE WORDS. CHECK WHICH WORD IS DIFFERENT.

EXAMPLE A: *rib, rip, rip*. (brief pause)

THE WORD NUMBER ONE IS DIFFERENT. CHECK ONE.

EXAMPLE A: 1 (✓)
2 ()
3 ()

EXAMPLE B: *beach, beat, beach*. (brief pause)

THE WORD NUMBER TWO IS DIFFERENT. CHECK TWO.

EXAMPLE B: 1 ()
2 (✓)
3 ()

EXAMPLE C: *beef, beef, beat*. (brief pause)

THE WORD NUMBER THREE IS DIFFERENT. CHECK THREE.

EXAMPLE C: 1 ()

2 ()

3 (✓)

Repeat the examples if the students still do not understand the procedure.

Read the numbers and the following triplets of words:

- | | |
|----------------------------------|------------------------------------|
| 1. <i>ridge, rich, rich</i> | 35. <i>bode, bode, boat</i> |
| 2. <i>bath, bass, bath</i> | 36. <i>prize, price, prize</i> |
| 3. <i>gib, give, gib</i> | 37. <i>catch, cash, cash</i> |
| 4. <i>faith, faith, fate</i> | 38. <i>tease, tease, teethe</i> |
| 5. <i>cap, cab, cab</i> | 39. <i>hatch, hat, hat</i> |
| 6. <i>badge, batch, badge</i> | 40. <i>seat, seat, seed</i> |
| 7. <i>path, pass, pass</i> | 41. <i>half, bath, bath</i> |
| 8. <i>robe, robe, rove</i> | 42. <i>seethe, seize, seize</i> |
| 9. <i>bath, bat, bat</i> | 43. <i>tell, tell, ten</i> |
| 10. <i>tap, tab, tap</i> | 44. <i>Sue, Sue, suit</i> |
| 11. <i>Madge, match, match</i> | 45. <i>tag, tack, tack</i> |
| 12. <i>face, face, faith</i> | 46. <i>wreath, reef, wreath</i> |
| 13. <i>give, gib, gib</i> | 47. <i>age, age, aid</i> |
| 14. <i>sooth, suit, suit</i> | 48. <i>pain, pail, pain</i> |
| 15. <i>rip, rip, rib</i> | 49. <i>cue, cue, cute</i> |
| 16. <i>search, surge, surge</i> | 50. <i>back, back, bag</i> |
| 17. <i>myth, miss, miss</i> | 51. <i>sheaf, sheath, sheaf</i> |
| 18. <i>robe, rove, rove</i> | 52. <i>rid, rid, ridge</i> |
| 19. <i>sheath, sheet, sheath</i> | 53. <i>bowl, bone, bowl</i> |
| 20. <i>cub, cup, cup</i> | 54. <i>brute, brute, brew</i> |
| 21. <i>race, raise, race</i> | 55. <i>pig, pick, pig</i> |
| 22. <i>much, mush, mush</i> | 56. <i>wreath, reef, reef</i> |
| 23. <i>base, base, bathe</i> | 57. <i>mad, Madge, mad</i> |
| 24. <i>writ, writ, rich</i> | 58. <i>phone, fowl, fowl</i> |
| 25. <i>beat, bead, beat</i> | 59. <i>beer, bill, beer</i> |
| 26. <i>his, hiss, hiss</i> | 60. <i>leak, league, league</i> |
| 27. <i>watch, watch, wash</i> | 61. <i>breathe, brieve, brieve</i> |
| 28. <i>Sue's, soothe, Sue's</i> | 62. <i>leap, leap, leaf</i> |
| 29. <i>bat, batch, batch</i> | 63. <i>read, read, wreath</i> |
| 30. <i>bet, bed, bed</i> | 64. <i>rear, rill, rear</i> |
| 31. <i>loose, lose, lose</i> | 65. <i>tat, tat, tack</i> |
| 32. <i>hatch, hash, hatch</i> | 66. <i>wreath, reeve, reeve</i> |
| 33. <i>she's, sheathe, she's</i> | 67. <i>sape, safe, sape</i> |
| 34. <i>catch, cat, catch</i> | 68. <i>bathe, bathe, bade</i> |

- | | |
|--------------------------------------|-------------------------------------|
| 69. <i>fear, fill, fill</i> | 100. <i>safe, save, save</i> |
| 70. <i>lock, lot, lot</i> | 101. <i>ruse/ruwz/, ruse, rough</i> |
| 71. <i>sheave, sheathe, sheave</i> | 102. <i>life, lice, lice</i> |
| 72. <i>laugh, lap, lap</i> | 103. <i>tire, tie, tire</i> |
| 73. <i>sued/suwd/, sued, soothe</i> | 104. <i>have, has, have</i> |
| 74. <i>gear, gear, gill</i> | 105. <i>mouth, mouthe, mouth</i> |
| 75. <i>buck, but, but</i> | 106. <i>base, base, beige</i> |
| 76. <i>wreathe, reef, wreathe</i> | 107. <i>knife, nice, knife</i> |
| 77. <i>hap, hap, half</i> | 108. <i>mire, my, my</i> |
| 78. <i>breathe, breed, breed</i> | 109. <i>save, save, says</i> |
| 79. <i>flew, flew, flute</i> | 110. <i>teethe, teeth, teeth</i> |
| 80. <i>loot, loot, Luke</i> | 111. <i>rouge, ruse, rouge</i> |
| 81. <i>Russ, rush, rush</i> | 112. <i>puff, pus, pus</i> |
| 82. <i>sing, sin, sin</i> | 113. <i>bee, beat, beat</i> |
| 83. <i>feel, few, few</i> | 114. <i>wave, ways, wave</i> |
| 84. <i>mire, mire, my</i> | 115. <i>soothe, sooth, soothe</i> |
| 85. <i>leave, leaf, leaf</i> | 116. <i>beige, base, base</i> |
| 86. <i>mush, muss, mush</i> | 117. <i>see, seat, see</i> |
| 87. <i>surge, surge, surd</i> | 118. <i>light, light, lie</i> |
| 88. <i>sung, sun, sung</i> | 119. <i>dove, does, does</i> |
| 89. <i>foal, foe, foe</i> | 120. <i>bath, bathe, bath</i> |
| 90. <i>half, half, have</i> | 121. <i>meat, me, meat</i> |
| 91. <i>lease/liys/, leash, leash</i> | 122. <i>toil, toil, toy</i> |
| 92. <i>thin, thing, thing</i> | 123. <i>brown, brow, brow</i> |
| 93. <i>bow, bow, bowl</i> | 124. <i>buy, buy, bite</i> |
| 94. <i>few, feel, few</i> | 125. <i>pry, pride, pry</i> |
| 95. <i>five, fife, five</i> | 126. <i>might, my, my</i> |
| 96. <i>cash, Cass, cash</i> | 127. <i>now, now, noun</i> |
| 97. <i>ban, bang, ban</i> | 128. <i>fight, fight, fie</i> |
| 98. <i>lease/liys/, lease, leaf</i> | 129. <i>bow/bow/, bow, boat</i> |
| 99. <i>fire, fire, fie</i> | 130. <i>brow, brow, brown</i> |

PART FOUR

Time: approximately 25 minutes.

I AM GOING TO READ THREE WORDS. CHECK WHICH WORD IS DIFFERENT.

EXAMPLE A: *skill, skill, sill*. (brief pause)

THE WORD NUMBER THREE IS DIFFERENT. CHECK THREE.

EXAMPLE A: 1 ()

2 ()

3 (✓)

EXAMPLE B: *skill, still, skill*. (brief pause)

THE WORD NUMBER TWO IS DIFFERENT. CHECK TWO.

EXAMPLE B: 1 ()
2 (✓)
3 ()

EXAMPLE C: *dry, try, try.* (brief pause)

THE WORD NUMBER ONE IS DIFFERENT. CHECK ONE.

EXAMPLE C: 1 (✓)
2 ()
3 ()

Repeat the examples if the students still do not understand the procedure.

Read the numbers and the following triplets of words:

- | | |
|-------------------------------------|-----------------------------------|
| 1. <i>throw, throw, fro</i> | 30. <i>brew, prew, brew</i> |
| 2. <i>snap, snap, nap</i> | 31. <i>skill, skill, kill</i> |
| 3. <i>drawn, drawn, dawn</i> | 32. <i>back, black, black</i> |
| 4. <i>thrill, thill, thill</i> | 33. <i>glean, glean, lean</i> |
| 5. <i>play, pray, pray</i> | 34. <i>flow, low, flow</i> |
| 6. <i>Fred, Fred, thread</i> | 35. <i>plows, blouse, blouse</i> |
| 7. <i>near, near, sneer</i> | 36. <i>cool, cool, school</i> |
| 8. <i>drill, dill, dill</i> | 37. <i>blank, bank, bank</i> |
| 9. <i>throng, thong, throng</i> | 38. <i>globe, globe, lobe</i> |
| 10. <i>plowed, plowed, proud</i> | 39. <i>swell, sell, sell</i> |
| 11. <i>spill, pill, pill</i> | 40. <i>plain, plain, blain</i> |
| 12. <i>fair, fair, flair</i> | 41. <i>send, send, spend</i> |
| 13. <i>dressed, dressed, rest</i> | 42. <i>brake, brake, bake</i> |
| 14. <i>fried, pride, pride</i> | 43. <i>grain, gain, gain</i> |
| 15. <i>blue, brew, blue</i> | 44. <i>sweet, seat, sweet</i> |
| 16. <i>pit, spit, spit</i> | 45. <i>dry, dry, try</i> |
| 17. <i>flame, flame, fame</i> | 46. <i>sin, spin, spin</i> |
| 18. <i>dried, ride, ride</i> | 47. <i>bright, bite, bite</i> |
| 19. <i>flash, lash, flash</i> | 48. <i>grape, grape, gape</i> |
| 20. <i>bleed, breed, breed</i> | 49. <i>splice, spice, splice</i> |
| 21. <i>stick, stick, tick</i> | 50. <i>trill, drill, trill</i> |
| 22. <i>block, block, lock</i> | 51. <i>stole, sole, sole</i> |
| 23. <i>glaive, gave, gave</i> | 52. <i>bride, bride, ride</i> |
| 24. <i>thrice, thrice, rice</i> | 53. <i>kick, crick, kick</i> |
| 25. <i>breast, pressed, pressed</i> | 54. <i>split, split, spit</i> |
| 26. <i>still, till, till</i> | 55. <i>crowd, cloud, crowd</i> |
| 27. <i>land, land, bland</i> | 56. <i>stay, stay, say</i> |
| 28. <i>gloat, gloat, goat</i> | 57. <i>bring, ring, ring</i> |
| 29. <i>wrote, throat, throat</i> | 58. <i>cost, crossed, crossed</i> |

59. *quint, squint, squint*
60. *climb, climb, crime*
61. *sigh, sky, sky*
62. *play, play, pay*
63. *cried, ride, cried*
64. *squill, quill, quill*
65. *glew, grew, grew*
66. *sill, sill, skill*
67. *place, pace, pace*
68. *crow, crow, row*
69. *play, splay, splay*
70. *glow, glow, frow*
71. *slay, lay, lay*
72. *plane, plane, lane*
73. *freeze, fees, fees*
74. *plash, plash, splash*
75. *glass, class, class*
76. *slid, slid, lid*
77. *plate, late, late*
78. *fright, fright, fight*
79. *throw, fro, fro*
80. *glad, glad, clad*
81. *slang, slang, sang*
82. *pray, pray, pay*
83. *fried, fried, ride*
84. *Fred, Fred, thread*
85. *crew, grew, grew*
86. *slave, save, save*
87. *pose, pose, prose*
88. *frail, rail, rail*
89. *tread, thread, tread*
90. *crow, crow, grow*
91. *smell, sell, sell*
92. *prose, rose, prose*
93. *thrill, thrill, trill*
94. *straight, trait, trait*
95. *fry, fry, fly*
96. *smock, smock, sock*
97. *prize, rise, rise*
98. *flash, plash, flash*
99. *pray, pray, fray*
100. *flee, flee, free*
101. *moke, smoke, smoke*
102. *trail, tail, tail*
103. *plat, plat, flat*
104. *kick, quick, quick*
105. *thread, tread, tread*
106. *myth, myth, Smith*
107. *troll, toll, troll*
108. *scream, scheme, scheme*
109. *quite, kite, kite*
110. *three, tree, three*
111. *sneeze, seize, seize*
112. *trade, trade, rade*
113. *skipped, script, script*
114. *butte, boot, butte*
115. *trail, rail, trail*
116. *snow, snow, so*
117. *string, sting, sting*
118. *square, square, scare*
119. *butte, boot, boot*
120. *sprite, spite, spite*
121. *hi, why, hi*
122. *stray, stray, stay*
123. *squeeze, skis, skis*
124. *fuel, fool, fuel*
125. *sprit, sprit, spit*
126. *whit, whit, hit*
127. *cream, scream, scream*
128. *fuel, fool, fool*
129. *swill, swill, squill*
130. *pray, spray, pray*
131. *poor, pure, poor*
132. *scrape, crape, scrape*
133. *strap, strap, trap*
134. *poor, pure, pure*
135. *sprint, sprint, print*
136. *square, swear, swear*

PART FIVE

Time: approximately 25 minutes.

I AM GOING TO READ THREE WORDS. CHECK WHICH WORD IS DIFFERENT.

EXAMPLE A: *sink, sing, sing.* (brief pause)

THE WORD NUMBER ONE IS DIFFERENT. CHECK ONE.

EXAMPLE A: 1 (✓)

2 ()

3 ()

EXAMPLE B: *lend, lent, lend.* (brief pause)

THE WORD NUMBER TWO IS DIFFERENT. CHECK TWO.

EXAMPLE B: 1 ()

2 (✓)

3 ()

EXAMPLE C: *belt, belt, bet.* (brief pause)

THE WORD NUMBER THREE IS DIFFERENT. CHECK THREE.

EXAMPLE C: 1 ()

2 ()

3 (✓)

Repeat the examples if the students do not understand the procedure.

Read the numbers and the following triplets of words:

- | | |
|--|-------------------------------------|
| 1. <i>hell, hell, help</i> | 22. <i>boot, boots, boots</i> |
| 2. <i>kilns, kiln, kilns</i> | 23. <i>welch, well, well</i> |
| 3. <i>sculp, scup, scup</i> | 24. <i>wreaths, wreaths, wreath</i> |
| 4. <i>shelve, shelves, shelve</i> | 25. <i>bilge, bilge, bill</i> |
| 5. <i>belt, bell, belt</i> | 26. <i>widths, width, width</i> |
| 6. <i>curbs, curb, curb</i> | 27. <i>bulge, budge, budge</i> |
| 7. <i>fault, fought, fought</i> | 28. <i>lifts, lift, lifts</i> |
| 8. <i>words, word, words</i> | 29. <i>helm, hell, helm</i> |
| 9. <i>mill, mill, milk</i> | 30. <i>fifth, fifths, fifths</i> |
| 10. <i>icebergs, iceberg, icebergs</i> | 31. <i>elm, m/em/, elm</i> |
| 11. <i>silk, sick, silk</i> | 32. <i>acts, acts, act</i> |
| 12. <i>girl, girls, girls</i> | 33. <i>kiln, kin, kin</i> |
| 13. <i>cold, coal, coal</i> | 34. <i>gulf, gulfs, gulfs</i> |
| 14. <i>harms, harm, harm</i> | 35. <i>kill, kill, kiln</i> |
| 15. <i>fade, failed, fade</i> | 36. <i>silks, silk, silks</i> |
| 16. <i>turn, turns, turns</i> | 37. <i>tend, ten, ten</i> |
| 17. <i>tent, ten, tent</i> | 38. <i>helps, helps, help</i> |
| 18. <i>curves, curves, curve</i> | 39. <i>bed, bed, bend</i> |
| 19. <i>hint, hit, hit</i> | 40. <i>faults, faults, fault</i> |
| 20. <i>laughs, laughs, laugh</i> | 41. <i>change, chain, chain</i> |
| 21. <i>belch, bell, belch</i> | 42. <i>healths, healths, health</i> |

43. *rage, rage, range*
44. *nymphs, nymph, nymph*
45. *tenth, ten, tenth*
46. *ninths, ninth, ninth*
47. *bunch, bunch, bun*
48. *ranks, rank, rank*
49. *munch, much, much*
50. *scripts, script, scripts*
51. *warm, warmth, warm*
52. *desks, desks, desk*
53. *seems, seem, seems*
54. *lisp, lisps, lisps*
55. *has, hams, has*
56. *roasts, roasts, roast*
57. *beans, beans, bees*
58. *eighths, eighth, eighths*
59. *fan, fans, fans*
60. *texts, texts, text*
61. *sings, sing, sing*
62. *sixths, sixths, sixth*
63. *elf, l/el/, l/el/*
64. *twelfth, twelfths, twelfths*
65. *elf, elf, f/el/*
66. *tempts, tempt, tempts*
67. *wealth, wealth, well*
68. *thousandths, thousandths, thousandth*
69. *delve, dell, delve*
70. *lengths, length, lengths*
71. *bells, bell, bell*
72. *surfs, surfs, surf*
73. *cause, calls, calls*
74. *works, works, work*
75. *must, muss, must*
76. *chirp, chirps, chirp*
77. *fist, fist, fit*
78. *bursts, bursts, burst*
79. *task, tasse, tasse*
80. *rubbed, rub, rub*
81. *desk, deck, desk*
82. *tugged, tugged, tug*
83. *lisp, lip, lisp*
84. *raged, rage, raged*
85. *such, such, search*
86. *combed, combed, comb*
87. *Sir, search, search*
88. *wronged, wrong, wrong*
89. *broad, breadth, broad*
90. *seethe, seethed, seethed*
91. *breadth, breath, breath*
92. *rouged, rouged, rouge*
93. *eighth, eight, eighth*
94. *moved, moved, move*
95. *leaves, leave, leaves*
96. *praise, praised, praised*
97. *lease, leaves, lease*
98. *bulged, bulged, bulge*
99. *tent, tend, tend*
100. *film, film, filmed*
101. *shelve, shelf, shelve*
102. *solved, solved, solve*
103. *bolt, bold, bolt*
104. *change, changed, changed*
105. *heard, hurt, heard*
106. *barbed, barbed, barb*
107. *surge, search, search*
108. *merged, merge, merged*
109. *serve, surf, serve*
110. *curled, curl, curl*
111. *belt, bent, bent*
112. *warmed, warmed, warm*
113. *end, eld, end*
114. *turned, turned, turn*
115. *boles, bones, bones*
116. *curved, curve, curve*
117. *seethed, sieved, seethed*
118. *push, push, pushed*
119. *wreaths, reefs, reefs*
120. *touched, touched, touch*
121. *cabs, cab, cabs*
122. *engulf, engulfed, engulf*
123. *rigs, rigs, rig*
124. *welch, welch, welched*
125. *balls, ball, ball*
126. *lunch, lunch, lunched*
127. *rooms, rooms, room*

128. *danced, dance, danced*

129. *live, lives, lives*

130. *link, linked, linked*

131. *things, thing, things*

132. *lapsed, lapse, lapsed*

133. *breathe, breathes, breathe*

134. *bulbs, bulbs, bulb*

135. *cold, colds, cold*

136. *films, film, films*

APPENDIX II

ENGLISH PRONUNCIATION FOR VIETNAMESE STEP TWO: TESTS OF PRODUCTION (TAPE RECORDING)

INSTRUCTIONS TO EXAMINERS

The tests, like the tests of recognition, are to be administered to beginning students (ten to twenty of them) and advanced students (five to ten of them) who are in majority Southern Vietnamese dialect speakers. They are composed of three parts:

Part One: individual words having difficult vowels, initial and final consonants and consonant clusters.

Part Two: a short passage (taken from Ernest Hemingway's *A Farewell to Arms*, Jonathan Cape Publishers, London, 1957, pp.66-67).

Since the reading samples will be used to find out intonation problems, we would like to have *four native speakers* of Midwestern Standard American English (two of them female and two male) record the same passage.

Part Three: recordings of essay writings on any topic (stories, narration, etc.), read by some ten students and written by themselves, and if possible, recordings of some free conversation in English by Vietnamese students. The essay writings and topics of conversation can be assigned to students as ordinary homework. Two to five hours of tapes for Part Three will be enough.

Thanks to the well-equipped language laboratory at the V.A.A., recordings of up to twenty students can be made at the same time.

Ask the students to give their name, age, V.A.A. grade and their native Vietnamese dialect before they read the tests.

Only the second part of the tests, the reading of Hemingway's passage, needs some preparation by the students before being recorded. Ask them to read through the text two or three times in order to minimise their reading difficulties. Then ask them to read for the actual recording.

PART ONE: INDIVIDUAL WORDS

The Student's name:

Age:

V.A.A. Grade:

Vietnamese dialect:

Date of recording:

(It is not necessary to give the number before the words.)

- | | | | |
|------------------|-------------------|--------------------|--------------------|
| 1. <i>pill</i> | 28. <i>thank</i> | 55. <i>have</i> | 82. <i>light</i> |
| 2. <i>push</i> | 29. <i>they</i> | 56. <i>cow</i> | 83. <i>pool</i> |
| 3. <i>bees</i> | 30. <i>thin</i> | 57. <i>loud</i> | 84. <i>bill</i> |
| 4. <i>beach</i> | 31. <i>then</i> | 58. <i>tin</i> | 85. <i>car</i> |
| 5. <i>foot</i> | 32. <i>coat</i> | 59. <i>soon</i> | 86. <i>far</i> |
| 6. <i>fees</i> | 33. <i>cool</i> | 60. <i>raise</i> | 87. <i>breathe</i> |
| 7. <i>veal</i> | 34. <i>goal</i> | 61. <i>his</i> | 88. <i>feel</i> |
| 8. <i>vote</i> | 35. <i>gain</i> | 62. <i>cash</i> | 89. <i>seen</i> |
| 9. <i>wing</i> | 36. <i>heat</i> | 63. <i>fish</i> | 90. <i>bit</i> |
| 10. <i>week</i> | 37. <i>hill</i> | 64. <i>azure</i> | 91. <i>lit</i> |
| 11. <i>teach</i> | 38. <i>yes</i> | 65. <i>match</i> | 92. <i>cape</i> |
| 12. <i>tool</i> | 39. <i>you</i> | 66. <i>measure</i> | 93. <i>made</i> |
| 13. <i>den</i> | 40. <i>lip</i> | 67. <i>church</i> | 94. <i>bed</i> |
| 14. <i>dish</i> | 41. <i>right</i> | 68. <i>judge</i> | 95. <i>met</i> |
| 15. <i>mouth</i> | 42. <i>long</i> | 69. <i>age</i> | 96. <i>mat</i> |
| 16. <i>much</i> | 43. <i>rule</i> | 70. <i>bath</i> | 97. <i>bad</i> |
| 17. <i>need</i> | 44. <i>keep</i> | 71. <i>path</i> | 98. <i>full</i> |
| 18. <i>nor</i> | 45. <i>cup</i> | 72. <i>bathe</i> | 99. <i>look</i> |
| 19. <i>sick</i> | 46. <i>rub</i> | 73. <i>soothe</i> | 100. <i>pool</i> |
| 20. <i>such</i> | 47. <i>robe</i> | 74. <i>rock</i> | 101. <i>fool</i> |
| 21. <i>zeal</i> | 48. <i>ram</i> | 75. <i>luck</i> | 102. <i>note</i> |
| 22. <i>zoo</i> | 49. <i>came</i> | 76. <i>big</i> | 103. <i>coat</i> |
| 23. <i>shall</i> | 50. <i>leaf</i> | 77. <i>pig</i> | 104. <i>bought</i> |
| 24. <i>chest</i> | 51. <i>roof</i> | 78. <i>sing</i> | 105. <i>caught</i> |
| 25. <i>cheer</i> | 52. <i>mouth</i> | 79. <i>rang</i> | 106. <i>hot</i> |
| 26. <i>just</i> | 53. <i>smooth</i> | 80. <i>ring</i> | 107. <i>cot</i> |
| 27. <i>Jim</i> | 54. <i>live</i> | 81. <i>right</i> | 108. <i>but</i> |

109. <i>cup</i>	152. <i>clue</i>	195. <i>lend</i>	238. <i>bulb</i>
110. <i>ice</i>	153. <i>close</i>	196. <i>tend</i>	239. <i>bilge</i>
111. <i>write</i>	154. <i>blue</i>	197. <i>tent</i>	240. <i>bulb</i>
112. <i>house</i>	155. <i>bleed</i>	198. <i>ant</i>	241. <i>welch</i>
113. <i>cows</i>	156. <i>flow</i>	199. <i>must</i>	242. <i>width</i>
114. <i>boys</i>	157. <i>flee</i>	200. <i>rest</i>	243. <i>welch</i>
115. <i>oil</i>	158. <i>glow</i>	201. <i>fence</i>	244. <i>breadth</i>
116. <i>soil</i>	159. <i>glide</i>	202. <i>tense</i>	245. <i>adze</i>
117. <i>skin</i>	160. <i>dwell</i>	203. <i>old</i>	246. <i>kiln</i>
118. <i>pray</i>	161. <i>dwarf</i>	204. <i>cold</i>	247. <i>adze</i>
119. <i>press</i>	162. <i>quick</i>	205. <i>gulf</i>	248. <i>kiln</i>
120. <i>tree</i>	163. <i>quack</i>	206. <i>sink</i>	249. <i>verb</i>
121. <i>true</i>	164. <i>twine</i>	207. <i>self</i>	250. <i>board</i>
122. <i>free</i>	165. <i>tweed</i>	208. <i>monk</i>	251. <i>herb</i>
123. <i>fruit</i>	166. <i>swell</i>	209. <i>act</i>	252. <i>word</i>
124. <i>gray</i>	167. <i>swim</i>	210. <i>change</i>	253. <i>turf</i>
125. <i>grass</i>	168. <i>why</i>	211. <i>fact</i>	254. <i>iceberg</i>
126. <i>dray</i>	169. <i>which</i>	212. <i>range</i>	255. <i>surf</i>
127. <i>drew</i>	170. <i>thwart</i>	213. <i>valve</i>	256. <i>iceberg</i>
128. <i>crew</i>	171. <i>thwack</i>	214. <i>belt</i>	257. <i>surge</i>
129. <i>crow</i>	172. <i>few</i>	215. <i>solve</i>	258. <i>church</i>
130. <i>throw</i>	173. <i>fuse</i>	216. <i>felt</i>	259. <i>merge</i>
131. <i>thread</i>	174. <i>cute</i>	217. <i>desk</i>	260. <i>search</i>
132. <i>broad</i>	175. <i>cube</i>	218. <i>help</i>	261. <i>fork</i>
133. <i>brown</i>	176. <i>mute</i>	219. <i>task</i>	262. <i>curl</i>
134. <i>shrink</i>	177. <i>music</i>	220. <i>gulp</i>	263. <i>work</i>
135. <i>shrewd</i>	178. <i>beauty</i>	221. <i>false</i>	264. <i>girl</i>
136. <i>stay</i>	179. <i>bureau</i>	222. <i>silk</i>	265. <i>warm</i>
137. <i>still</i>	180. <i>pure</i>	223. <i>pulse</i>	266. <i>turn</i>
138. <i>spend</i>	181. <i>pupil</i>	224. <i>milk</i>	267. <i>harm</i>
139. <i>spoil</i>	182. <i>view</i>	225. <i>health</i>	268. <i>barn</i>
140. <i>small</i>	183. <i>huge</i>	226. <i>limp</i>	269. <i>carp</i>
141. <i>smoke</i>	184. <i>human</i>	227. <i>wealth</i>	270. <i>parse</i>
142. <i>skin</i>	185. <i>stray</i>	228. <i>pump</i>	271. <i>warp</i>
143. <i>score</i>	186. <i>string</i>	229. <i>bench</i>	272. <i>curse</i>
144. <i>snow</i>	187. <i>screw</i>	230. <i>soft</i>	273. <i>court</i>
145. <i>snail</i>	188. <i>scroll</i>	231. <i>lunch</i>	274. <i>nerve</i>
146. <i>sphere</i>	189. <i>spread</i>	232. <i>left</i>	275. <i>hurt</i>
147. <i>sphinx</i>	190. <i>spring</i>	233. <i>lisp</i>	276. <i>curve</i>
148. <i>slow</i>	191. <i>split</i>	234. <i>film</i>	277. <i>furze</i>
149. <i>sleep</i>	192. <i>splice</i>	235. <i>wasp</i>	278. <i>harsh</i>
150. <i>play</i>	193. <i>square</i>	236. <i>elm</i>	279. <i>furze</i>
151. <i>plow</i>	194. <i>squint</i>	237. <i>bulge</i>	280. <i>marsh</i>

281. worse	324. rooms	367. facts	410. waged
282. worth	325. calls	368. silks	411. roamed
283. corpse	326. teams	369. helps	412. wronged
284. hearth	327. lives	370. milks	413. combed
285. corpse	328. kings	371. gulps	414. thronged
286. first	329. hives	372. belts	415. breathed
287. quartz	330. things	373. healths	416. rouged
288. burst	331. breathes	374. faults	417. wreathed
289. quartz	332. bulbs	375. wealths	418. lived
290. tempt	333. wreathes	376. nymphs	419. raised
291. glimpse	334. colds	377. ninths	420. moved
292. prompt	335. films	378. lymphs	421. praised
293. glimpse	336. holds	379. tenths	422. bulged
294. belch	337. elms	380. sinks	423. filmed
295. nymph	338. shelves	381. ranks	424. solved
296. gulch	339. curbs	382. crypts	425.whelmed
297. triumph	340. solves	383. asks	426. shelved
298. copse	341. verbs	384. scripts	427. changed
299. apt	342. kilns	385. desks	428. barked
300. copse	343. cards	386. lisps	429. ranged
301. script	344. icebergs	387. fists	430. curbed
302. tenth	345. words	388. wasps	431. surged
303. lens	346. curbs	389. rests	432. curled
304. seventh	347. worms	390. eighths	433. merged
305. tens	348. girls	391. texts	434. hurled
306. fifth	349. harms	392. sixths	435. warmed
307. eighth	350. turns	393. twelfths	436. warned
308. fifth	351. curves	394. tempts	437. stormed
309. eighth	352. warns	395. thousandths	438. turned
310. text	353. nerves	396. lengths	439. curved
311. sixth	354. coughs	397. strengths	440. hunched
312. next	355. rats	398. surfs	441. nerved
313. sixth	356. laughs	399. works	442. munched
314. thousandth	357. boots	400. forks	443. danced
315. twelfth	358. breaths	401. chirps	444. linked
316. lynx	359. widths	402. warps	445. lapsed
317. warmth	360. wreaths	403. hurts	446. winked
318. strength	361. breadths	404. rubbed	447. little
319. cabs	362. tufts	405. thirsts	448. bottle
320. rugs	363. fifths	406. sobbed	449. apple
321. rubs	364. lifts	407. tugged	450. shuffle
322. bags	365. acts	408. raged	451. button
323. balls	366. gulfs	409. begged	452. happen

- 453. *sudden*
- 454. *bottom*
- 455. *seldom*
- 456. *freedom*

PART TWO: READING

The Student's name:

Age:

V.A.A. Grade:

Vietnamese dialect:

Date of recording:

Have your (2 female and 2 male) Americans who speak Midwestern Standard American English read the same passage.

The Informant's name:

Age:

Native State:

Date of recording:

(This passage is taken from Ernest Hemingway's *A Farewell to Arms*, Jonathan Cape Publishers, London, 1957, pp.66-7.) It is necessary to have the students read the passage two or three times before the actual recording in order to minimise their reading difficulties.

"'I brought you a few little things,' he said. He picked up the packages. 'This is mosquito netting. This is a bottle of vermouth. You like vermouth? These are English papers.'

'Please open them.'

He was pleased and undid them. I held the mosquito netting in my hands. The vermouth he held up for me to see and then put it on the floor beside the bed. I held up one of the sheaf of English papers. I could read the headlines by turning it so the half-light from the window was on it. It was the "News of the World".

'The others are illustrated,' he said.

'It will be a great happiness to read them. Where did you get them?'

'I sent for them to Mestre. I will have more.'

'You were very good to come, father. Will you drink a glass of vermouth?'

'Thank you. You keep it. It's for you.'

'No, drink a glass.'

'All right. I will bring you more then.'

The orderly brought the glasses and opened the bottle. He

broke off the cork and the end had to be shoved down into the bottle. I could see the priest was disappointed but he said, 'That's all right. It's no matter.'

'Here's to your health, father.'

'To your better health.'"

PART THREE:

READING ENGLISH COMPOSITION AND CONVERSATION

A. READING ENGLISH COMPOSITION

The Student's name:

Age:

V.A.A. Grade:

Vietnamese native dialect:

Date of recording:

The recorded text.

B. ACTUAL CONVERSATION IN ENGLISH

The Students' names:

Ages:

V.A.A. Grade of each Student:

Vietnamese native dialect:

The Teacher's name:

Date of recording:

The recorded text.

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