

THE VOWELS OF ARABIC AND ENGLISH

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The present study is an elaboration of differences and similarities between the two vocalic systems from the point of view of an Arab learner studying English.

The intent is pedagogical and, therefore, we adopt functional phonology for our theoretical format. Also, we provide more information on the Arabic system assuming that it will be less familiar to our readers than English. For this reason, we first describe the Arabic vowels with their most important variants without doing the same for English. The varieties of Arabic and English that are being compared are Modern Standard Arabic (MSA) and Southern Standard (British) English.

MSA is the variety that is used throughout the Arab world by educated Arabs in science, education and mass media. Obviously, there exist regional varieties of this overall standard pronunciation. We concentrate our attention on Contemporary Algerian Arabic (CAA) as it is spoken in Eastern Algeria, especially its major city, Constantine, where the present study has been developed.

The vowels of MSA

The Arabic vocalic system is based on three pairs of phonemes: the short /i a u/ and their long counterparts /i: a: u:/. There are a number of variants, conditioned and diaphonic, that are discussed by some authors, others give rather scant attention to allophonic variation.

The system can be presented in a quadrangle as below.

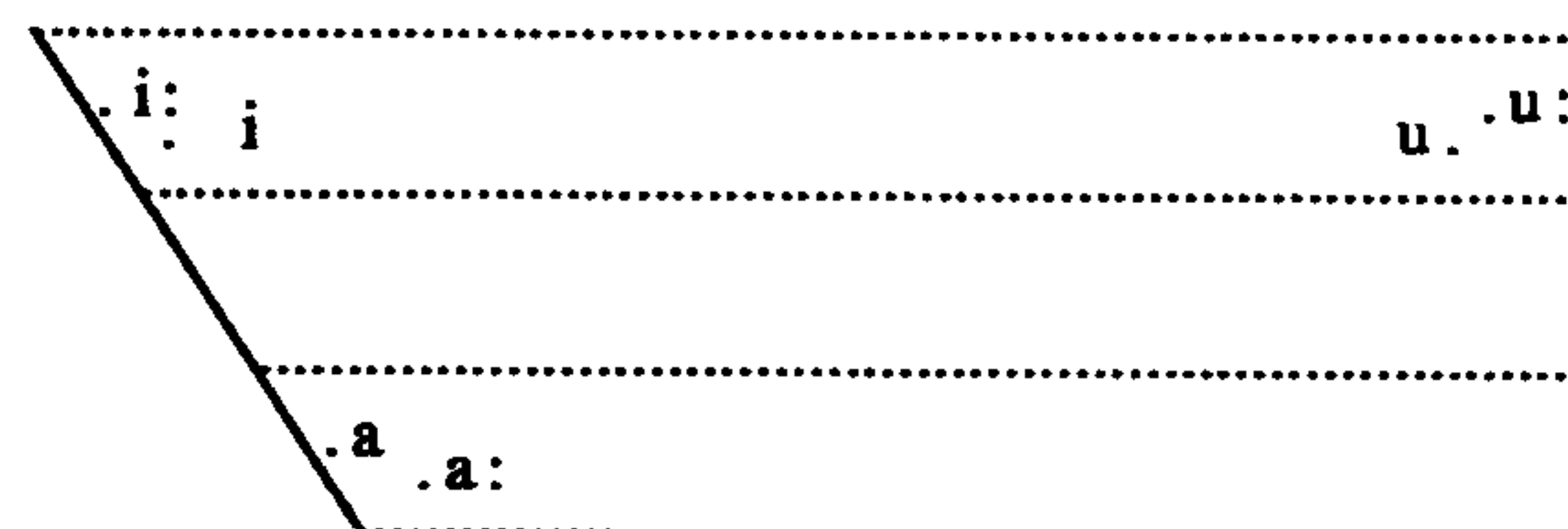


Fig. 1. The vowels of Modern Standard Arabic

The most general characteristics of the system can be summed up as follows.

1. The Arabic vowels never occur initially (after a pause). In this environment they are preceded by a glottal stop (hamza). They freely occur word-medially and word-finally.
2. All the vowels show phonetic harmony depending on whether they are contiguous to emphatic or non-emphatic consonants.¹ Generally speaking, when they are contiguous to emphatic consonants, they are retracted and/or centralized. When they are contiguous to non-emphatic consonants, they are more peripheral. Since we consider this phenomenon a case of phonetic harmony, we call the former variants emphatic and the latter non-emphatic.

Below we discuss the phonemes in detail, grouping /i:/ with /i/ and /u:/ with /u/ because of similarities of their allophones.

1. /i:/ *high front long*

Examples: /fi:l/ "elephant", /fi:/ "in"

2. /i/ *high front short*

Examples: /sinn/ "tooth", /bi/ "with"

Allophonic variants

- a) /i(:)/ is emphatic, i.e., retracted and centralized [ɪ(:)] when contiguous to emphatics, e.g.

¹ Emphasis is a co-articulation in the Arabic /T D S L/ which can be summarized phonetically as consisting of

- laryngopharyngeal constriction,
- raising of the larynx,
- raising of the back of the tongue,
- concomitant lowering of the front of the tongue.

This phonetic configuration is also sometimes called velarization or pharyngealization (Jakobson 1957, Cantineau 1960, Obrecht 1961).

/ʕaʕSi:r/ ⇒ [ʕaʕSɪ:r]² "juice"

/Tɪr/ ⇒ [Tɪr] "fly" imp.

b) /i(:)/ is non-emphatic, i.e., fronter and higher [i(:)] elsewhere, thus,

/saʕli:m/ ⇒ [saʕli:m] "safe"

/zid/ ⇒ [zid] "add".

The two variants are shown in the figure below.

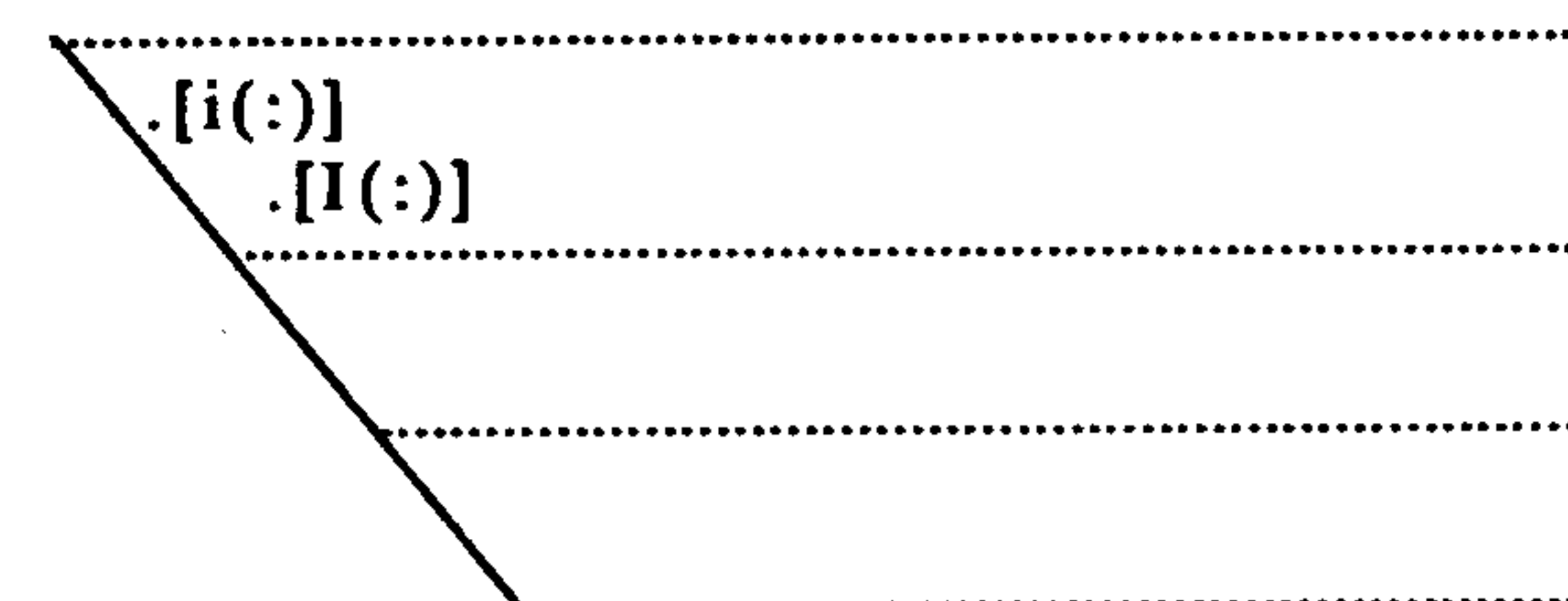


Fig. 2 Allophones of the Arabic /i:/ and /i/

- c) The lower variant [ɪ] of the short /i/ can also be found in unstressed position in di- and polysyllabic words,

e.g. /ʕa:hid/ ⇒ [ʕa:hɪd] "one"

/muʕza:hid/ ⇒ [muʕza:hɪd] "fighter"

In Algerian Arabic it frequently alternates with zero in those environments, thus [ʕa:hd] [muʕza:hd].

3. /a/ *low front short*

Examples: /rad/ "reply" /ʕakala/ "eat"

Allophonic variants

- a) /a/ is retracted and lowered [a] when contiguous to emphatics, e.g.

/Tabl/ ⇒ [Tabl] "drum"

/qaSr/ ⇒ [qaSr] "palace"

- b) Elsewhere, fronter and higher [æ] occurs

/sahl/ ⇒ [sæhl] "easy"

- c) In open and closed unstressed syllables low and high schwa can be found, respectively, thus

/ʕija/ ⇒ [ʕijə] "she"

/ʕaukab/ ⇒ [ʕaukə^hb] "planet".

The variants are shown in the quadrangle below.

² For reasons of clarity, only the sounds under discussion are changed to phonetic transcription and the rest of the word is left in phonemic transcription. In the case above the problem sounds are /i:/ ⇒ [ɪ:] and /i/ ⇒ [ɪ].

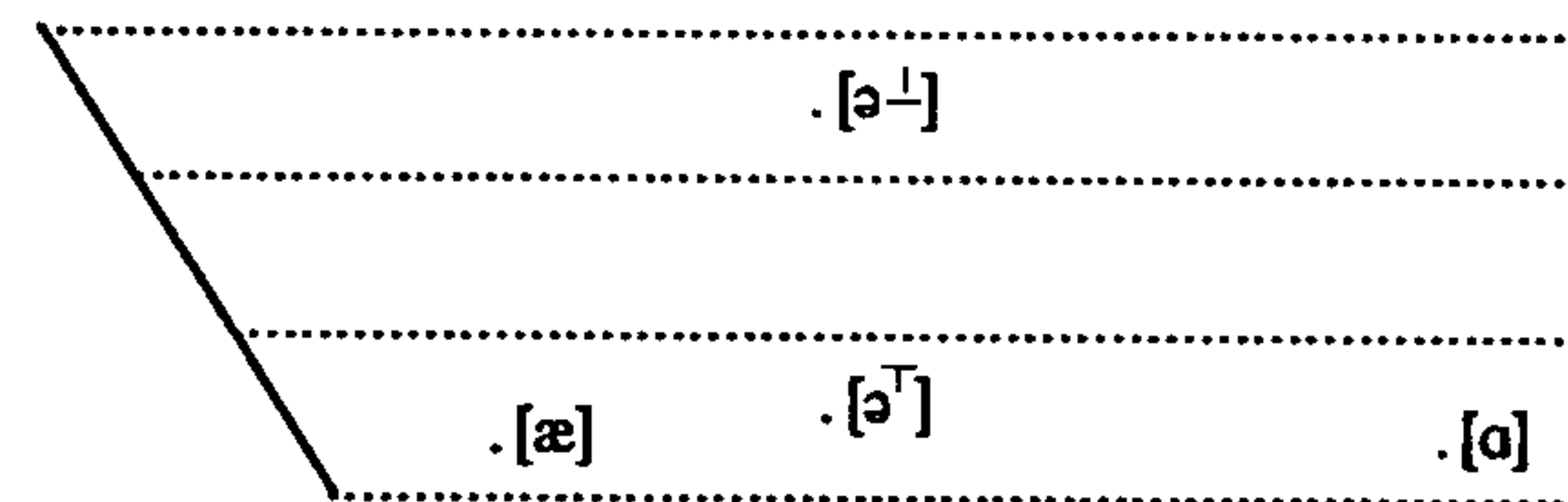


Fig. 3. Allophones of the Arabic /a/

4. /a:/ low front long

Examples: /ha:l/ "state" /la:/ "no"

Allophonic variants

a) /a:/ is lowered and retracted [a:] when contiguous to emphatics

/'fa:Dil/ ⇒ ['fa:Dil] "virtuous"

b) [æ:] is found elsewhere

/'na:ma/ ⇒ ['næ:ma] "sleep"

Figure 4 represents these variants

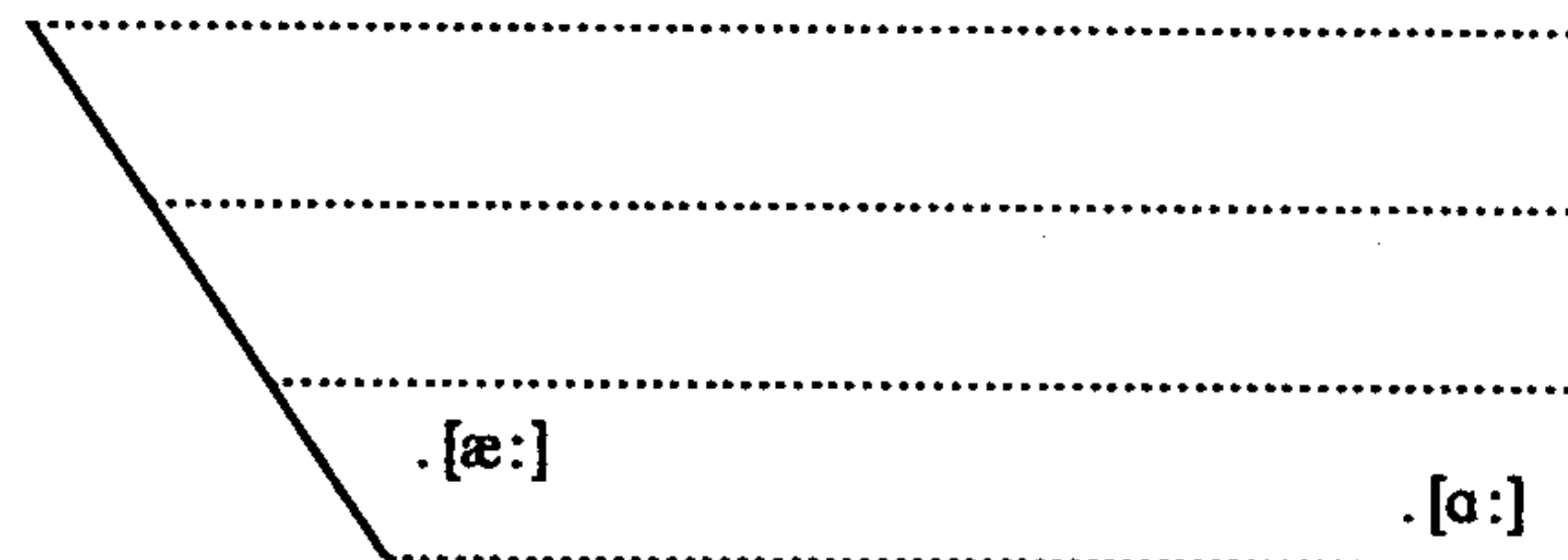


Fig. 4. Allophones of the Arabic /a:/

5. /u/ high back short

/hum/ "they" /'jaktubu/ "he writes"

6. /u:/ high back long

/nu:n/ latter "n" /ku'lu:/ "eat" imp. pl.

Allophonic variants

a) /u(:)/ is lowered and centralized [U(:)/ or [o(:)] when contiguous to emphatics, thus

/quTr/ ⇒ [qUTr]~[qoTr] "diameter"

/'Su:ra/ ⇒ ['Sʊ:ra]~['So:ra] "photograph"

b) Elsewhere, [u(:)] is found.

/kul/ ⇒ [kul] "eat" imp. sg.

/fu:l/ ⇒ [fu:l] "broad beans"

The variants are presented in the following figure.

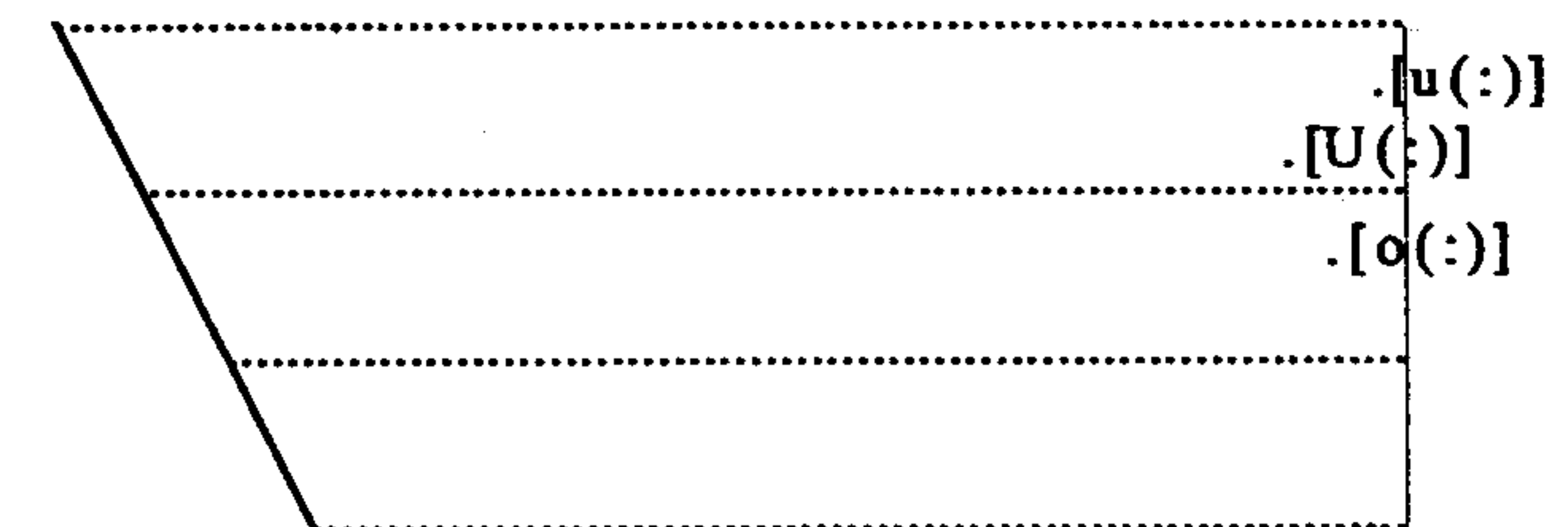


Fig. 5. Allophones of the Arabic /u/ and /u:/

The Vowels of Arabic and English

Below are the phonemic inventories of English and Arabic vowels juxtaposed alongside each other.

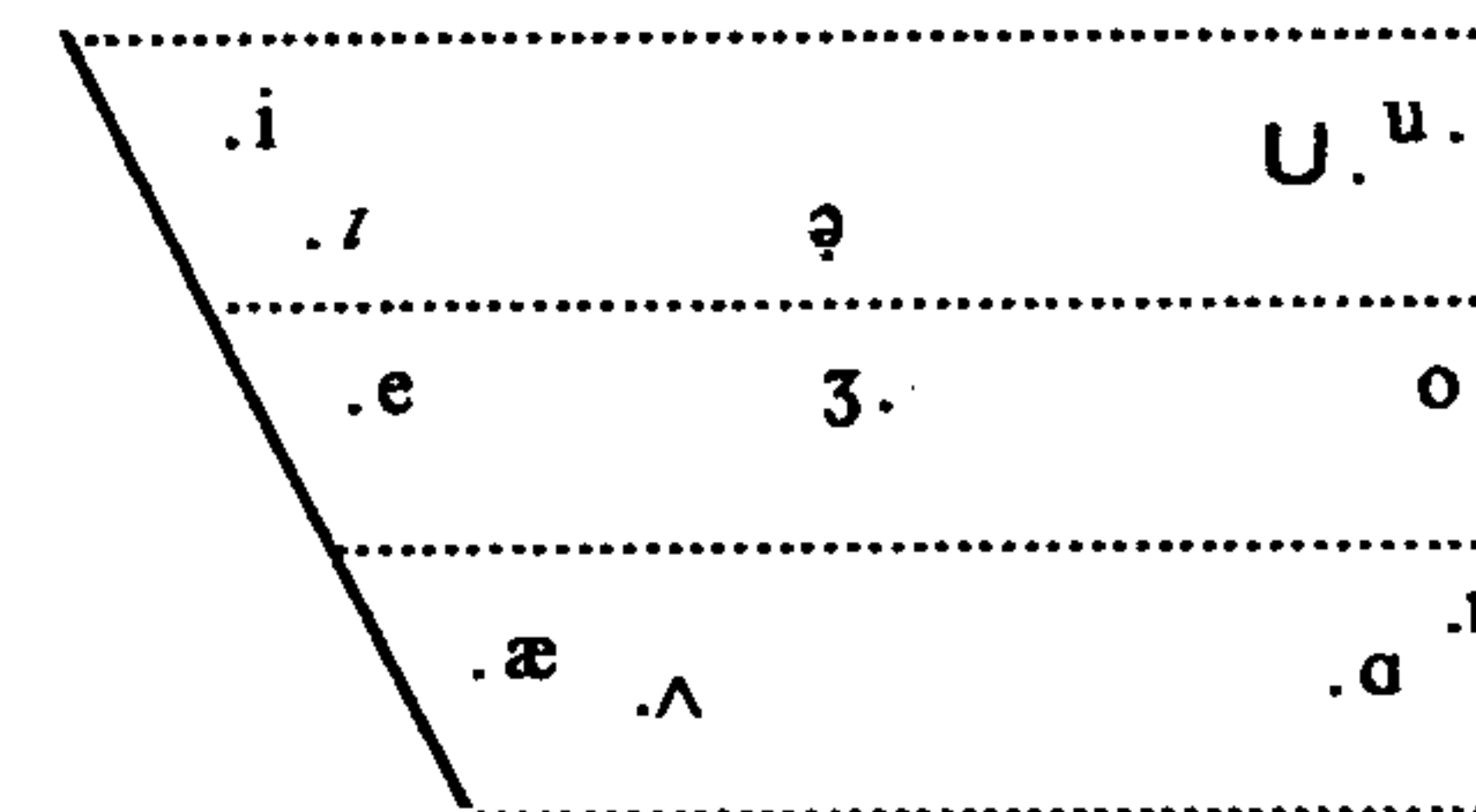


Fig. 6a. The vowels of English

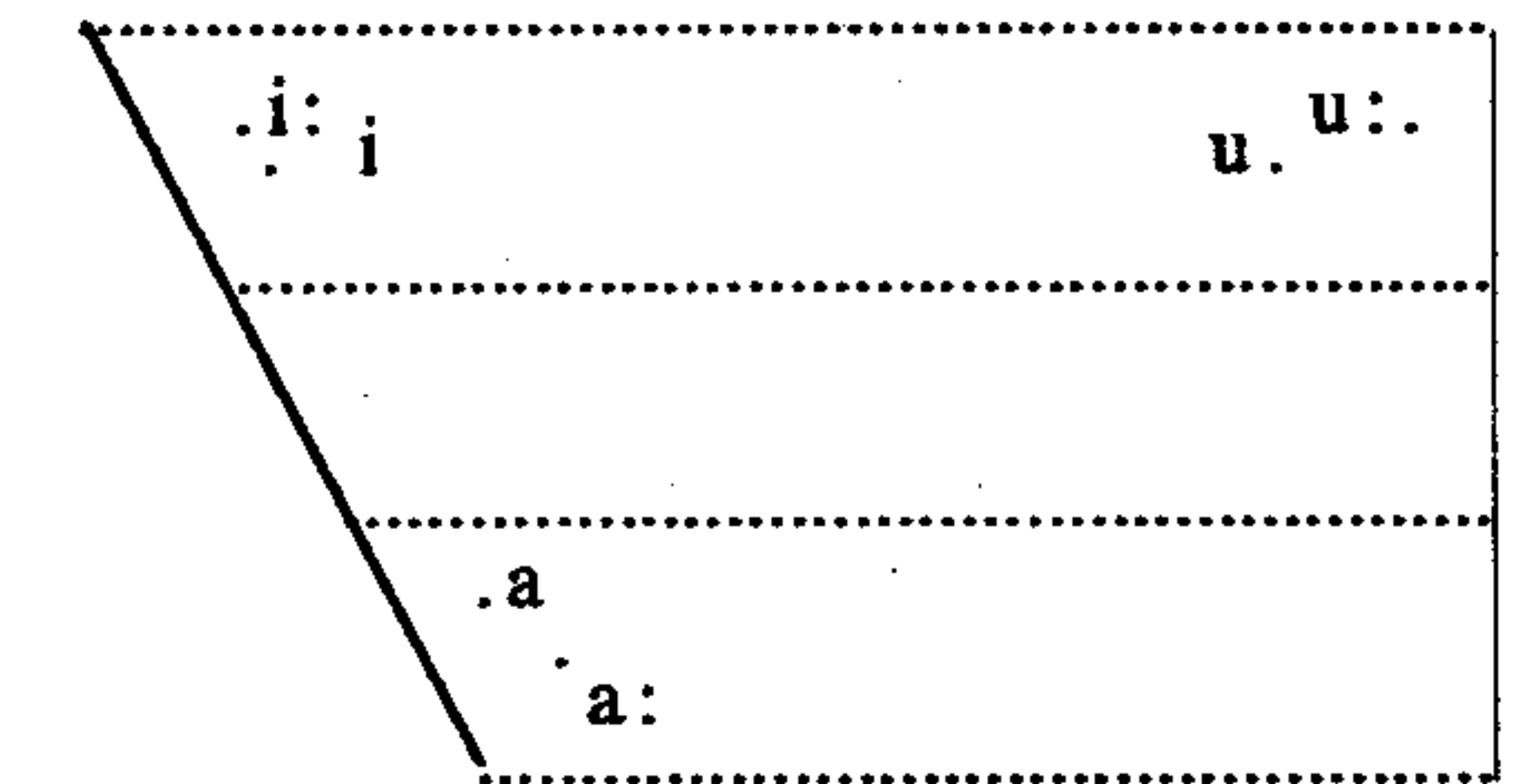


Fig. 6b. The vowels of Arabic

Phonemic problems

A brief look at the two systems shows immediately that the English system is much more complex than the Arabic. English has exactly twice as many distinctions among its vowels than Arabic: twelve vs. six. Especially back and central areas are affected by these differences.

Quality and quantity

The Arabic system is perfectly proportional in terms of quantity: it consists of three oppositions of long and short vowels, two in the high area and one in the low area, thus /i:/ vs. /i/ as in /si:n/ vs. /sinn/ letter "s" – "tooth"/u:/ vs. /u/ as in /fu:l/ vs. /full/ "broad beans" – "flower" /a:/ vs. /a/ as in /'na:ma/ vs. /na'ma:/ "to sleep" – "to grow"

All the Arabic phonologists known to us claim that, other than relative height, the distinctive feature obtaining between these phonemes is length. This is also in compliance with intuitions of native speakers. All the other features, then, such as tenseness and laxness, more or less peripheral articulation, roundness vs. unroundness present in these sounds, can be taken as redundant.

English has a series of similar, proportional oppositions which we take to be in terms of quality rather than quantity. They can be distinct by relative height.

/i/ vs. /ɪ/ as in *sea* vs. *sit*

/u/ vs. /ʊ/ as in *fool* vs. *full*

/o/ vs. /ɒ/ as in *sword* vs. *sot*

/ɜ/ vs. /ə/ as in *fur* vs. *for* (weak form),

or frontness vs. backness

/ɑ/ vs. /ʌ/ as in *carp* vs. *cup*.

As is well-known, they also differ in inherent length and tenseness, the first terms being longer and tenser.

The obvious consequence for the Arabic speaker is that he will perceive and produce the English oppositions in terms of length. The quality features are concomitant with the quantity ones at the subphonemic level in Arabic. It is, then, a classical case of reinterpretation of distinctions, invoking the native system's redundant features to assume a distinctive role.

We shall now proceed to discuss each series of vowels in English and Arabic in phonemic and subphonemic terms.

Front vowels

Phonemic problems

English has five phonemes in this series:

– two in the high area, /i/ higher high

 /ɪ/ lower high

– one in the mid area /e/

– two in the low area /æ/ higher low

 /ʌ/ lower low

Arabic has four phonemes in this series:

– two in the high area, /i:/ high long

 /i/ high short

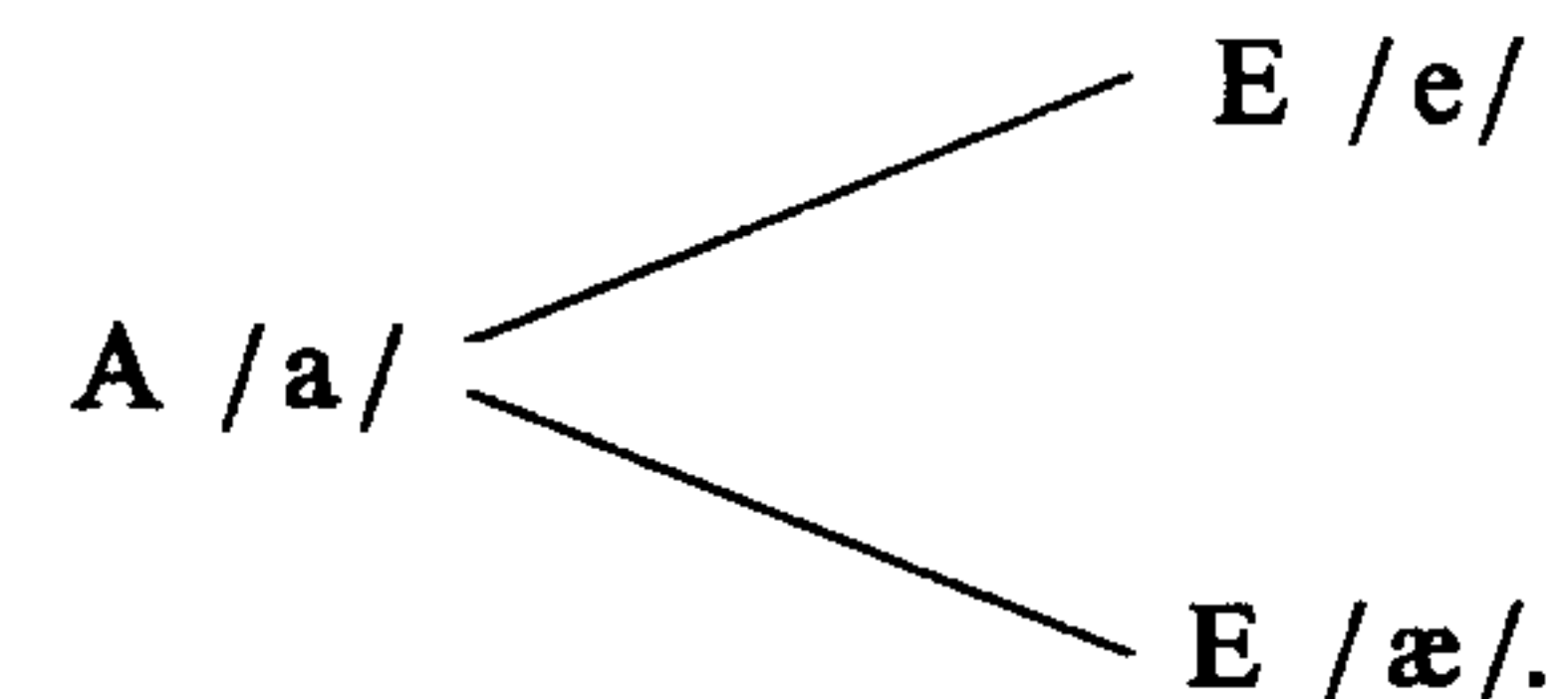
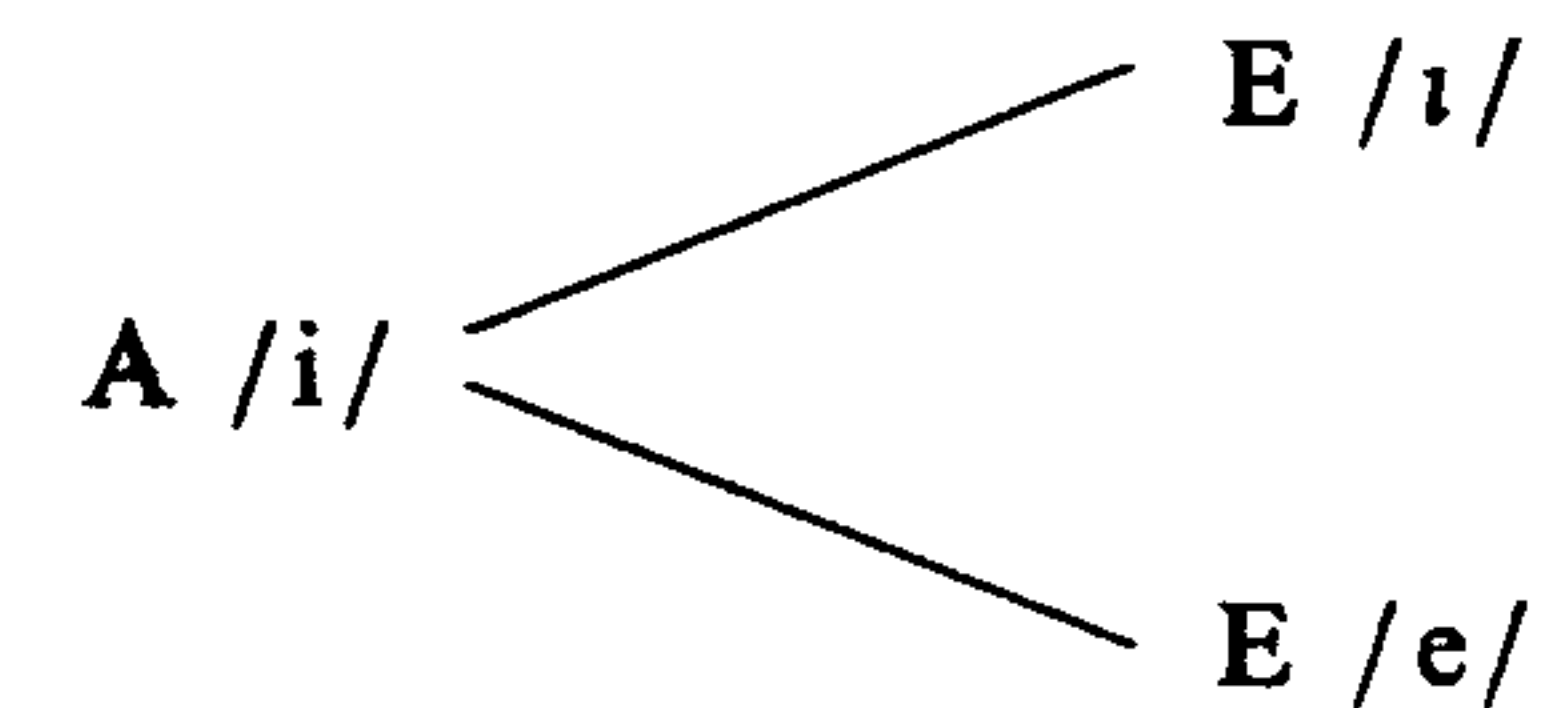
– two in the low area, /a/ low short

 /a:/ low long.

The phonemic problems arising from this situation for an Arabic-speaking student can be summarised as follows,

– in the high and low areas he must reinterpret the distinctions (see above);

– in the mid-high and mid-low areas he has to learn two divergent structures,



Subphonemic problems

In the high area the E /ɪ/ and A /i:/ are phonetically very similar and there should be no major problems with the pronunciation of this sound in English. There can be a problem with the prolonged and diphthongised variant, as in *tea*, *fee*, etc.

Arabic /i/ is higher and fronter than the E /ɪ/ and there can be a tendency in pronouncing it accordingly. However, the emphatic variant [ɪ̤], which is closer to the E /ɪ/ can be used to teach /ɪ/ in English.

The phoneme /e/ has no equivalent in Arabic. Probably the phonetically closest sounds are the emphatic [ɛ̤], or [ə], variants of the Arabic /i/ and /a/, respectively.

The E /ʌ/ is also a problem, but it can be pronounced by rearranging the features of the A /a/. French, which is widely spoken in Algeria, can quite evidently help in the pronunciation of the E /eʌ/.

All vowels in English are lengthened before voiced consonants, as in *feet* [fi:t] vs. *feed* [fi:d], etc. These differences can be missed by an Arab student. The same can be said about the tendency in English to nasalise vowels before nasal consonants, as in *bean*, *song*, *sum*, etc., which can be missed by Arabs.

Back vowels

Phonemic problems

English has five phonemes in this series,

– two in the low area, /ɑ/ lower low back

 /ɒ/ higher low back

- one in the mid area, /o/ *mid back*
- two in the high area, /ʊ/ *lower high back*
/u/ *higher high back*

Arabic has two back phonemes, /u:/ *high back long*
/u/ *high back short*.

The Arab student's problems should be as follows,

- he must reinterpret his quantity features into the quality features, as discussed above;
- he must learn to pronounce the English phonemes /o a ɒ/ nonexistent in his system.

In the case of the E /o/ the Arab student can make recourse to the allophone [o] of his native /u/. There can be a similar solution with the E /a/.

The situation boils down to two divergent structures: what are two allophones of the same phoneme in Arabic are two phonemes in English, thus



The E /ɒ/ has no counterpart in Arabic, phonetically or phonemically. Theoretically, it should pose the greatest problem. In the Algerian situation the facilitation should come from French, which has a higher low back oral /ɔ/.

Subphonemic problems

The E /u/ and A /u:/ are similar in their articulations and, therefore, the E /u/ does not seem to be a problem sound.

Some difficulties can be expected in the pronunciation of the diphthongised [ʊu] in the final position, as in *coo*.

Neither does Arabic have a counterpart to the centralised [ü], as in *few*.

The principal variant of the English /ʊ/ is lower and more central than that of the A /u/. However, Arabic has an emphatic variant, also lowered and centralised, as in [qʊTr] "diameter".

The A emphatic variant [o:] of /u:/ can be fruitfully used to teach the E /o/.

Central vowels

English has two central vowels that can be defined as

- mid central /ɜ/ and
- non-mid central /ə/.

Arabic has none.

Phonemically speaking, one might say that the Arabic-speaking student must learn two new phonemes. But it is truer in the case of E /ɜ/ than /ə/; in unstressed positions Arabic has schwa, which is one of the allophones of /a/.

Obviously the Arabic [ə] should be used to teach the E /ə/, but the problem is to "phonemicise" it. It can also be used in the teaching of the E /ɜ/ by rearranging features: adding tenseness and moving the tongue to a more mid-central position. Also, /ɜ/ is always stressed in English.

There is a possibility for an Arabic student to substitute the emphatic [ɪ] for the E /ɜ/ adding the following <r>, which is spelling-pronunciation.

Subphonemic problems

The E /ə/ has three allophones,

- the high one, as in *caution*. This allophone is pronounced above the half-close line and is somewhat similar to the A [ə] as in [ˈkæukəb],
- the low one as in *supper*. This allophone is pronounced below the half-open line and it is quite like the A [ə], as in [ˈhuwə],
- the retracted one, as in *menial*. This allophone is pronounced above the half-close line but in the back area. It might bear some resemblance to the emphatic variant of the A /u/.

As we can see, the variants of E /ə/ have a wide range of articulation, but the A /a/ has similar allophones. The emphatic [ɪ] of the A /i/ is also similar. This situation can be graphically represented as below.

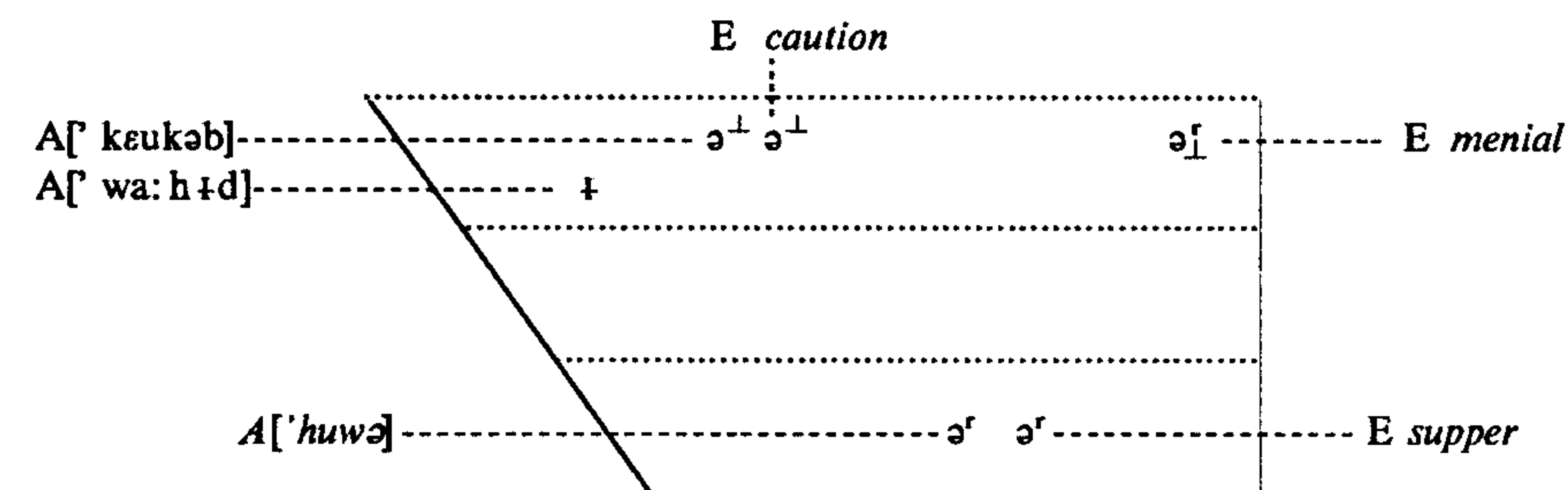


Fig. 8. The Arabic and English ə

As the other vowels, the central ones have longer, shorter and nasalised variants. They can cause problems. The citation words involved are, *curt* [kɜt] vs. *curd* [kɜ.d] vs. *cur* [kɜ:]
combine [kəmˈbaɪn] *firm* [fɜm].

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