

VOWELS

Lecture 5

Vowels

Vowels

Vowels are **sounds** in which there is **no obstruction** to the flow of air as it passes from the larynx to the lips.

Vowels

Introduction

1. Consonants are produced with the **airstream constricted** at some point in the vocal tract, while vowels are produced with **no obstruction**.

Vowels

Introduction

2. The **distribution** of vowels and consonants is **different** in a language .
The **study of distribution** of sounds is the study of the different contexts and positions in which particular sounds can occur. (*Phonology*)

Vowels

Example

The **[h]** sound is considered a consonant in English because of its distribution.

hen, hint, high

Vowels

The Description of Vowels

1. We can classify vowels according to their **tongue** height and their **frontness** and **backness**.
2. We can also classify them according to the **shape** of the **lip**.

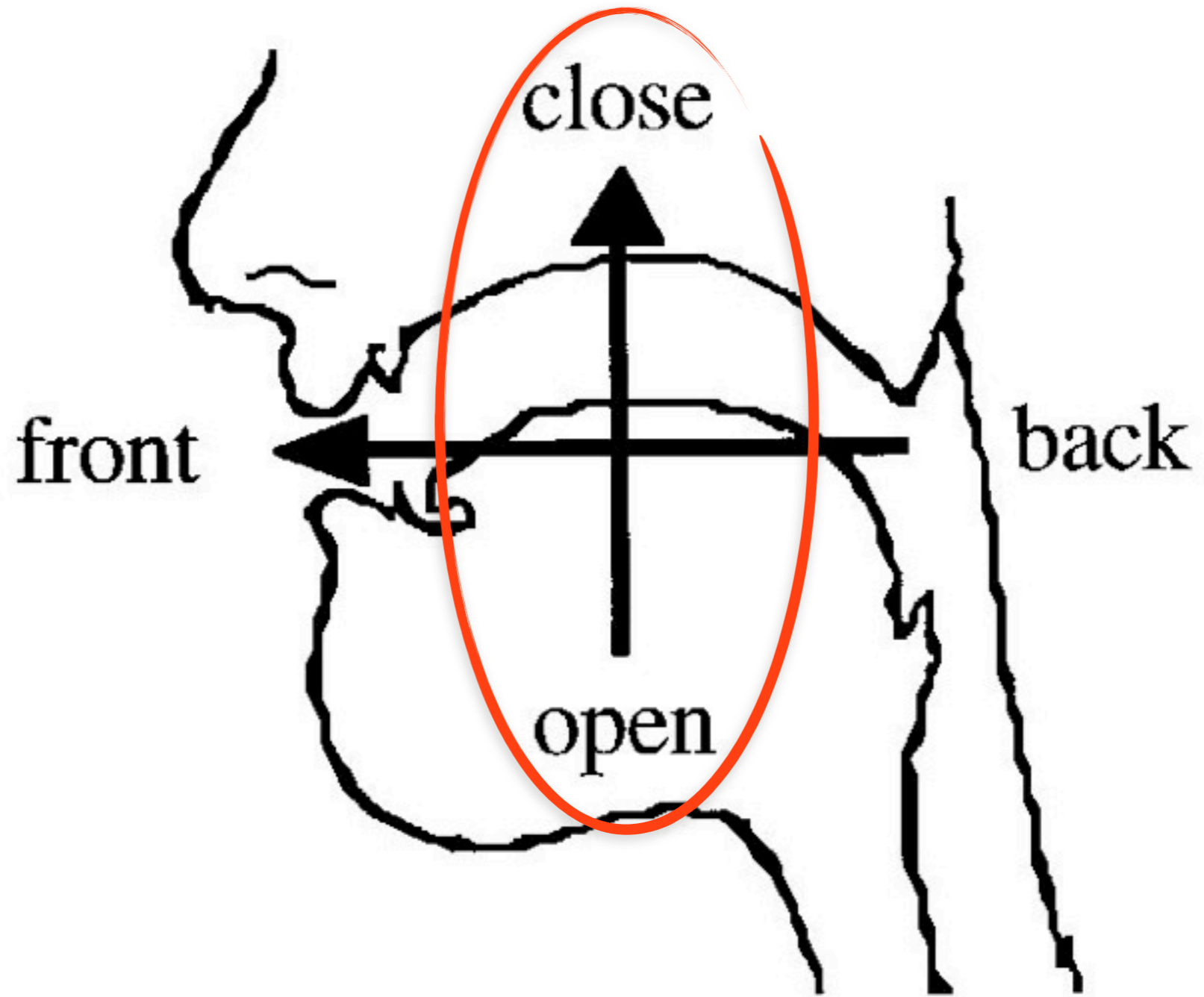
Vowels

The Description of Vowels

1. The shape and position of the tongue:

a. The **vertical distance** between the upper surface of the tongue and the palate (**open** and **close**)

Vowels

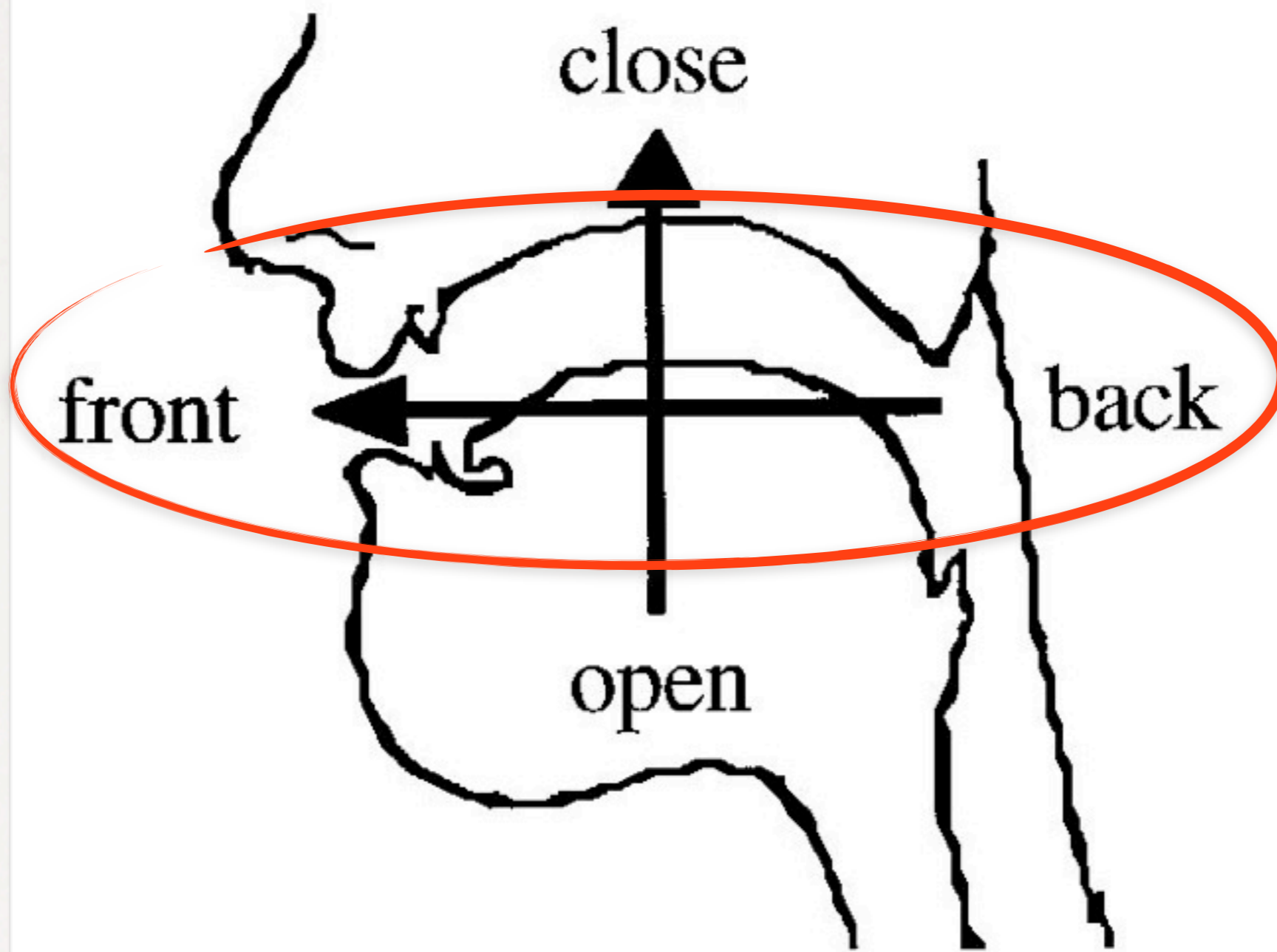


Vowels

Continue

b. The **horizontal distance** between the **front** and **back** of the tongue which is **raised highest**.

Vowels

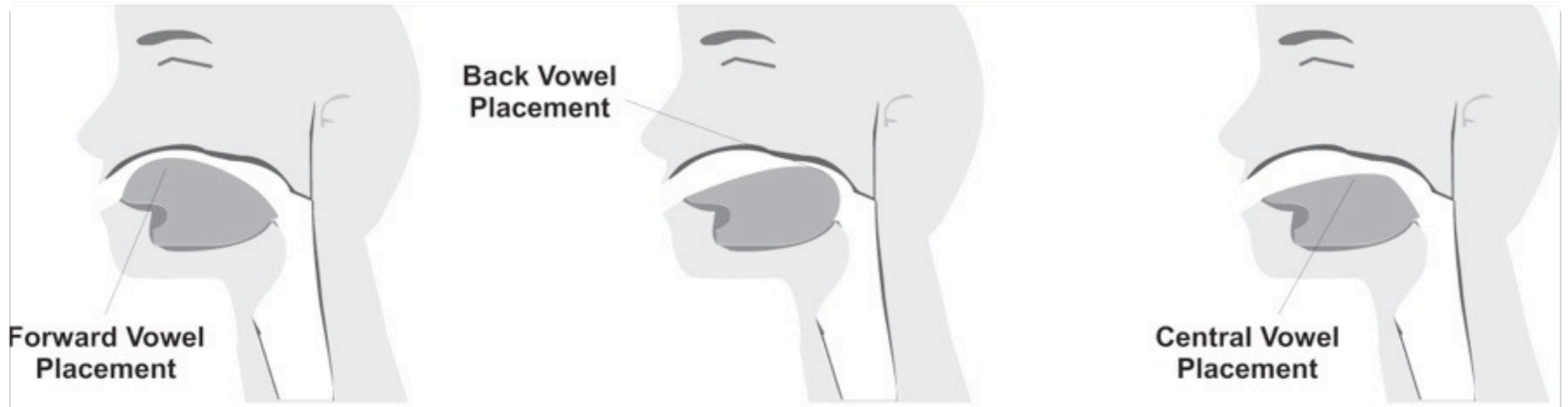


Vowels

Front

Center

Back



TONGUE POSITIONS OF VOWELS

TONGUE POSITIONS OF VOWELS

Placement

Placement

Vowels

Example

The sound [i:] as in *see* is a **close** vowel.

The sound [æ] as in *cat* is an **open** vowel.

Vowels

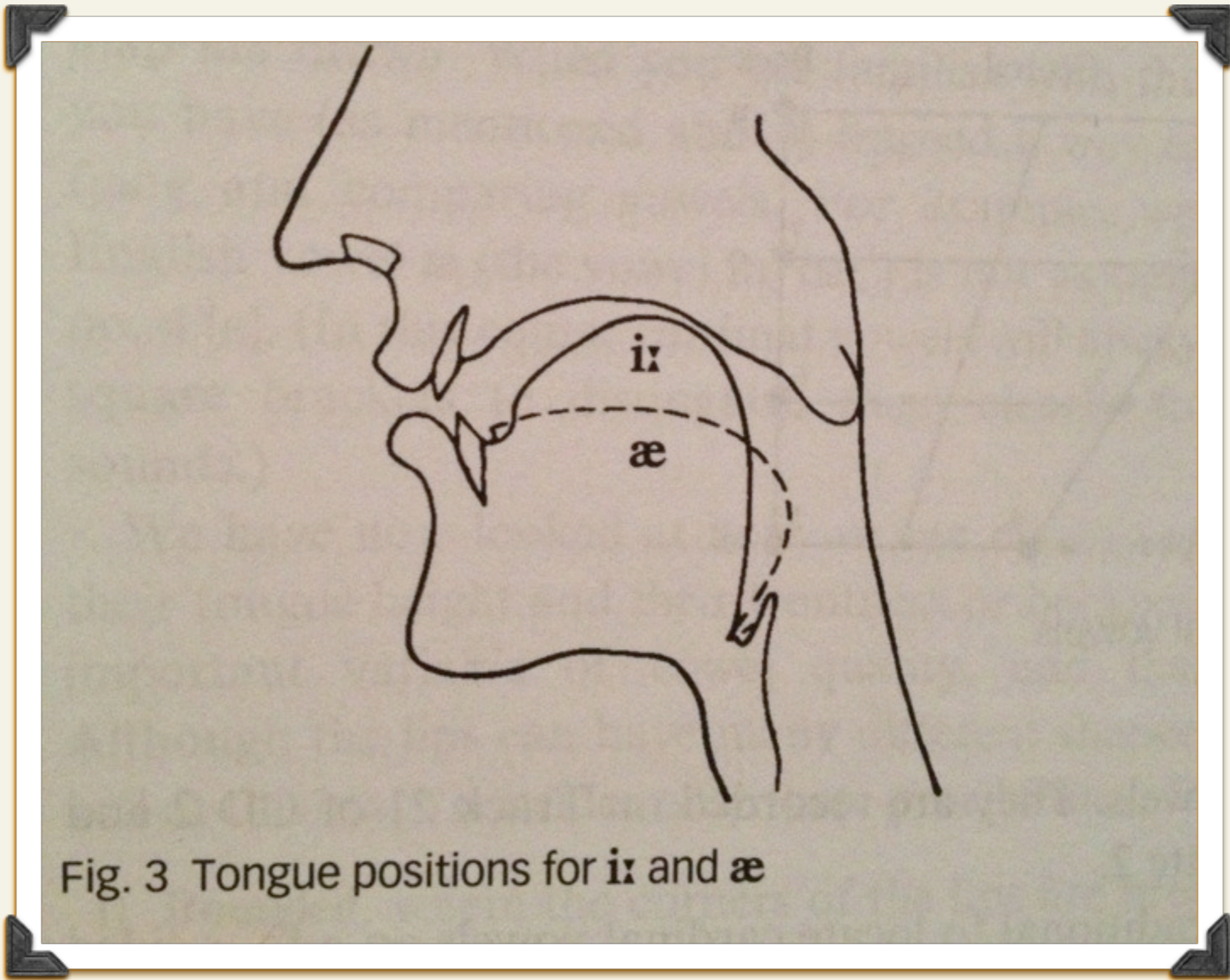


Fig. 3 Tongue positions for **i:** and **æ**

Vowels

Example

The difference between [i:] and [æ] is a difference in the tongue's height.

In making the vowels [i:] and [æ], the front part of the tongue that is raised.

We would therefore describe [i:] and [æ] as front vowels.

Vowels

Continue

By changing the *shape of the tongue*, we can produce vowels in which a different part of the tongue is the highest point.

A vowel in which the **back** of the **tongue** is the highest point is called **a back vowel**.

Vowels

Example

1. The vowel [a:] as in *calm*.
2. The vowel [u:] as in *too*.

The difference between [a:] and [u:] is that [a:] is an **open** vowel, whereas [u:] is **close**.

Vowels

	Front	Back
Close	i:	u:
Open	æ	ɑ:

Fig. 4 Extreme vowel positions for English

Vowels

Continue

2. The shape of the lips:

Although the lips can have many different shapes and positions, we will consider only three possibilities:

1. rounded

2. spread

3. neutral

Vowels

Variables in Vowel Quality



i



u



e



o



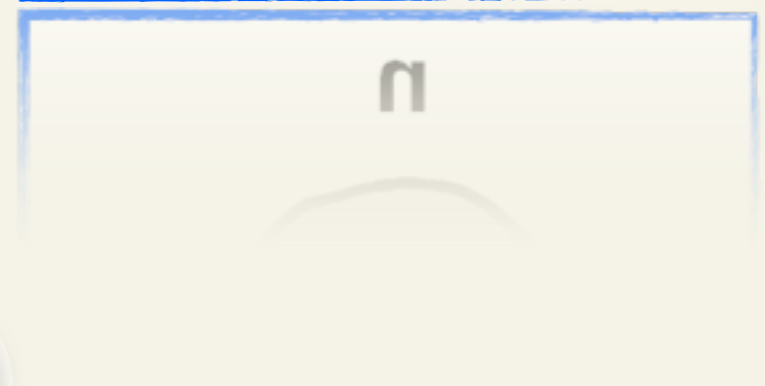
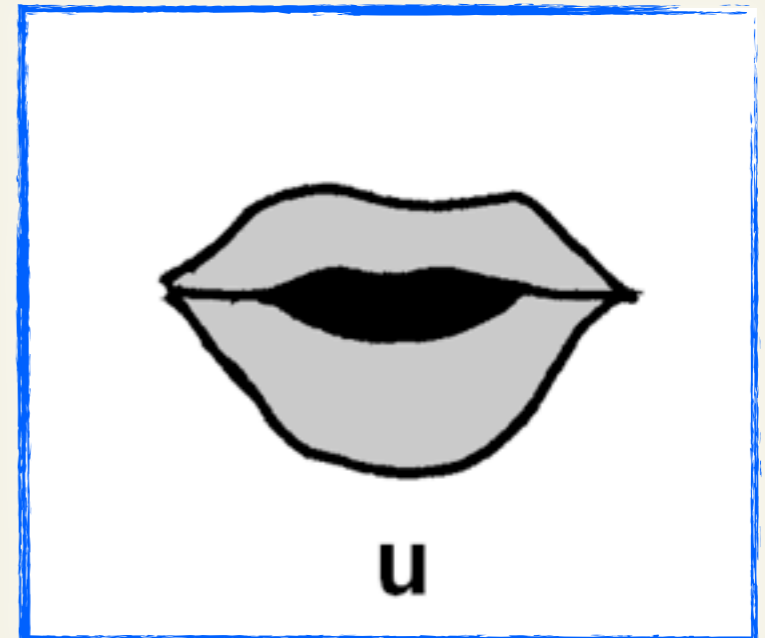
a

g

Vowels

Variables in Vowel Quality

1. Rounded: where the corner of the lips are brought towards each other and the lips pushed forwards as in [u].



Vowels

Variables in Vowel Quality

2. Spread: with the corner of the lips moved away from each other, as for a smile. It is seen in the vowel **[i]**.



i

Vowels

Variables in Vowel Quality

3. Neutral: where the lips are noticeably rounded or spread. The noise most English people make when they are hesitating has a neutral lip position as [ə].



Vowels

Cardinal Vowels

The cardinal vowels are a standard reference system used to describe vowels in any language.

Vowels

Vowel Quadrilateral

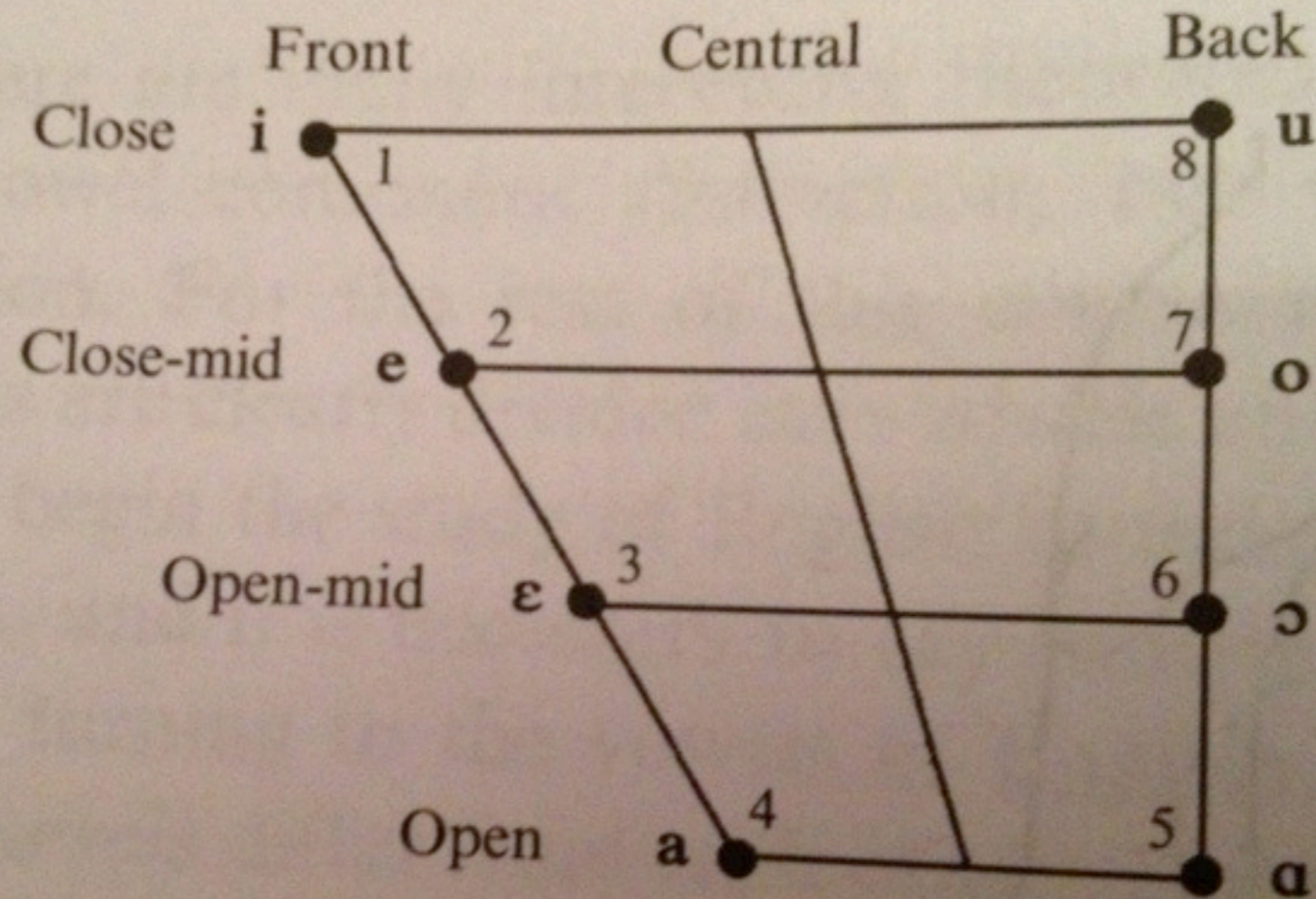
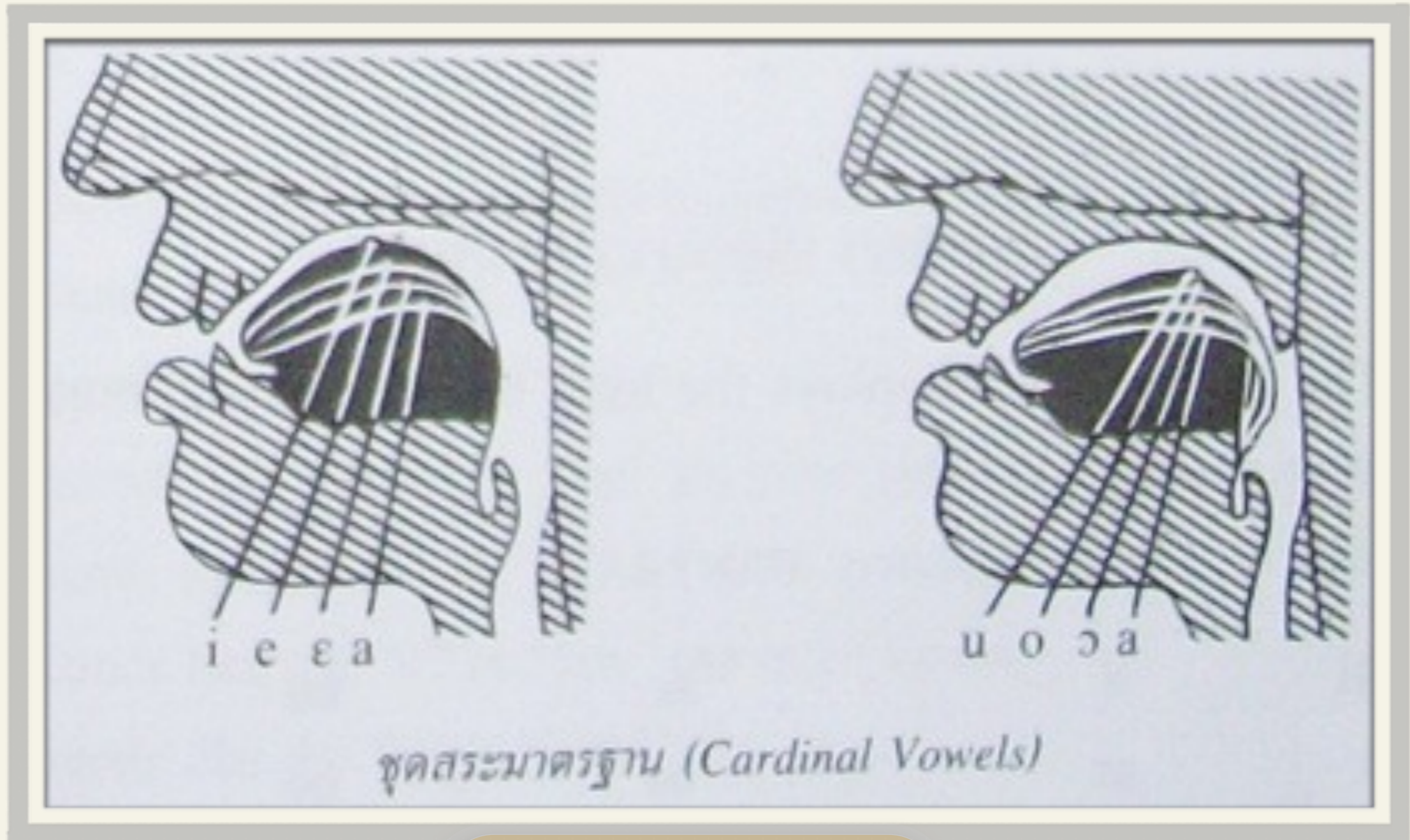


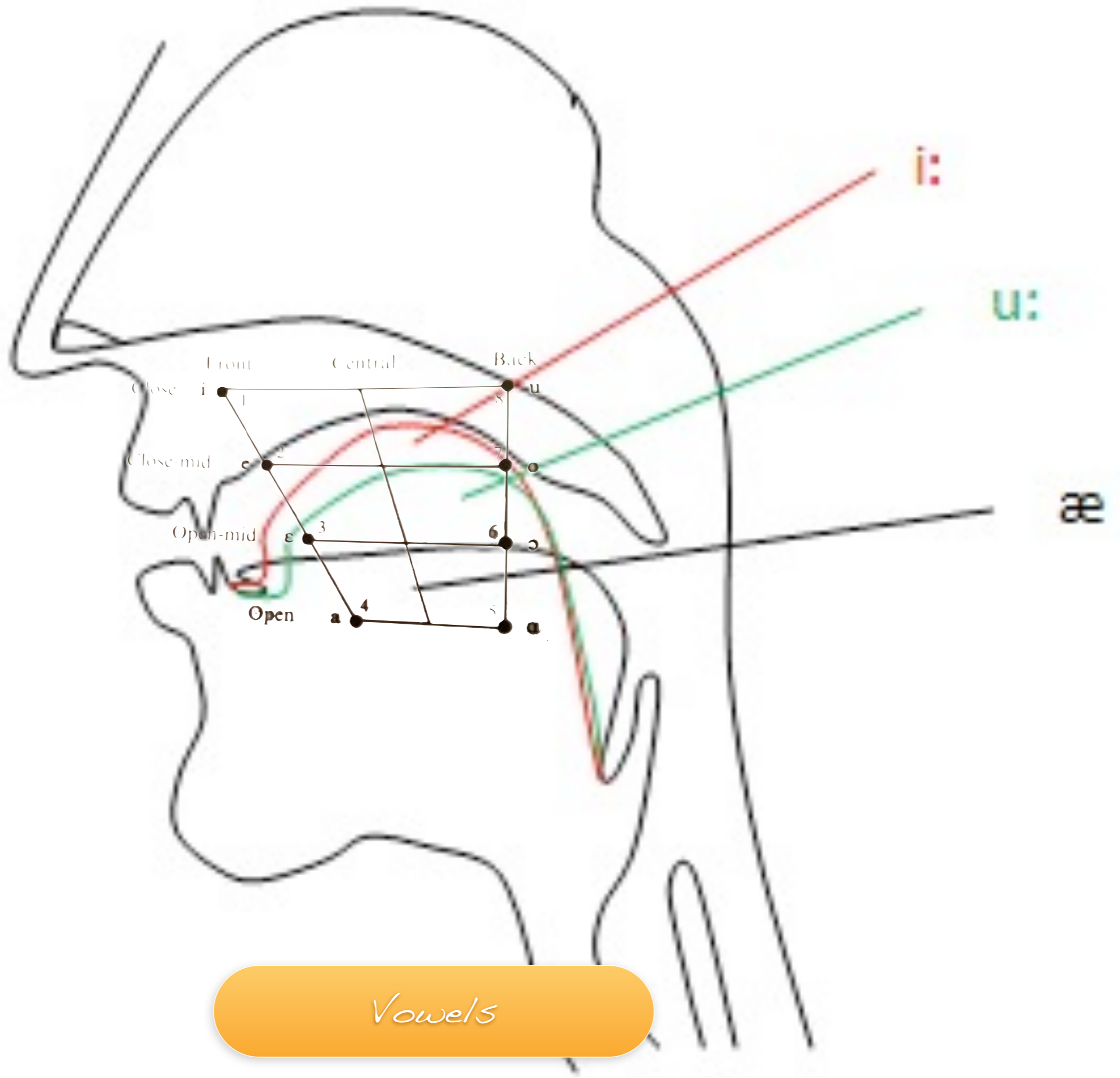
Fig. 5 Primary cardinal vowels

Vowels

Vowel Quadrilateral



Vowels



Vowels

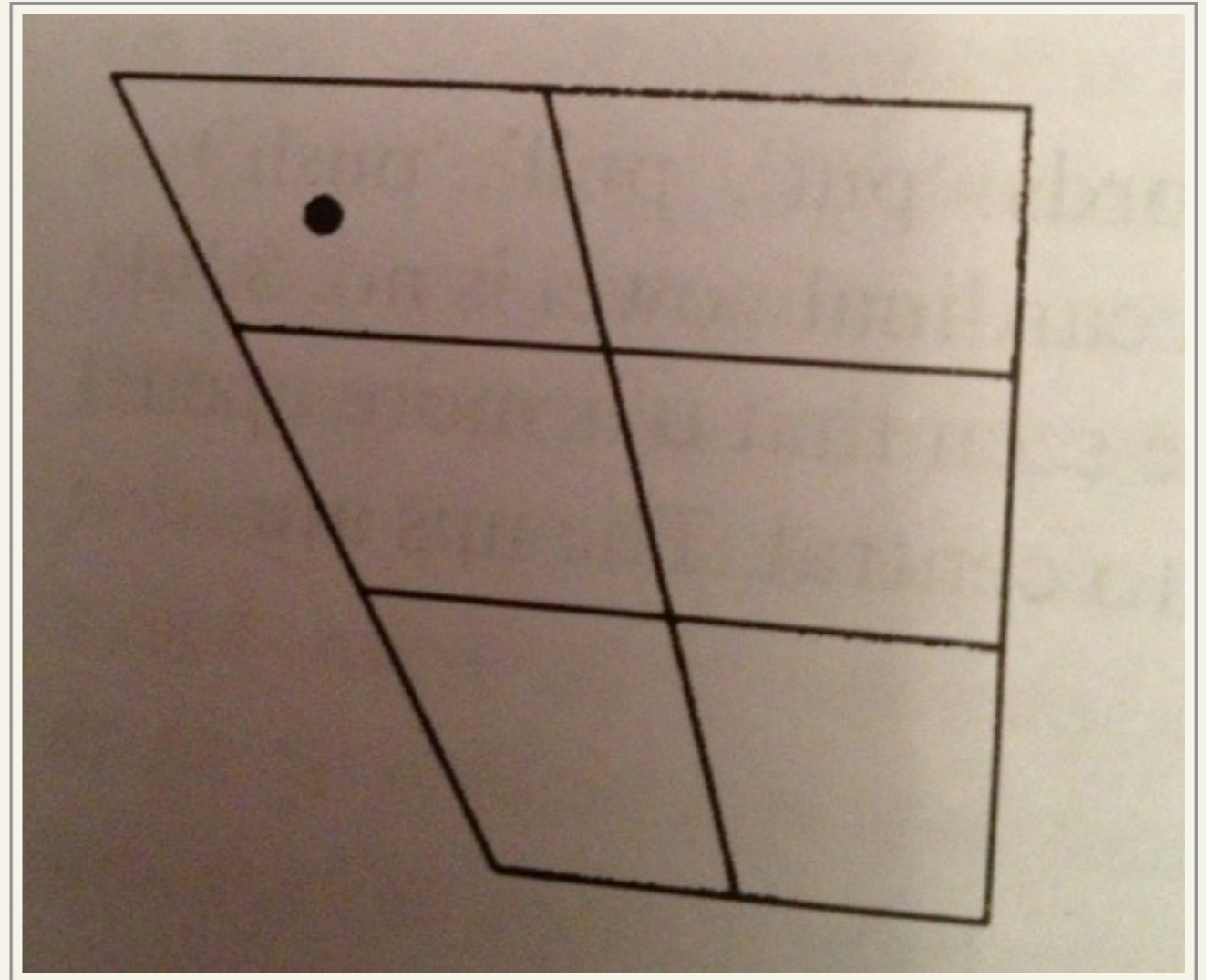
Short Vowels

1. [ɪ] as in

bit, pin, fish

is a *close front vowel*.

The lips are slightly *spread*.



Vowels

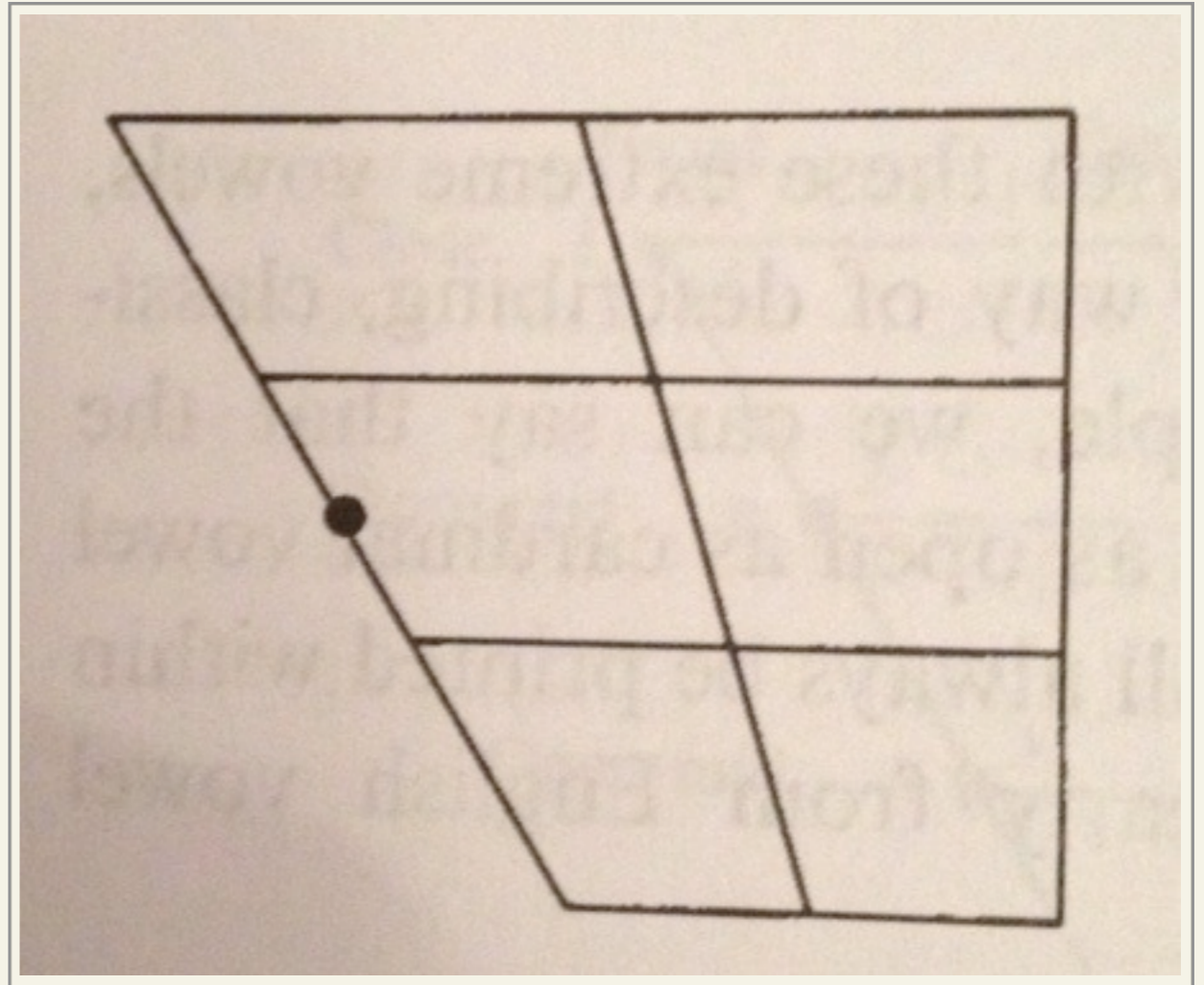
Short Vowels

2. [e] as in

men, bet, yes

is a *front open-
mid vowel*.

The lips are
slightly **spread**.



Vowels

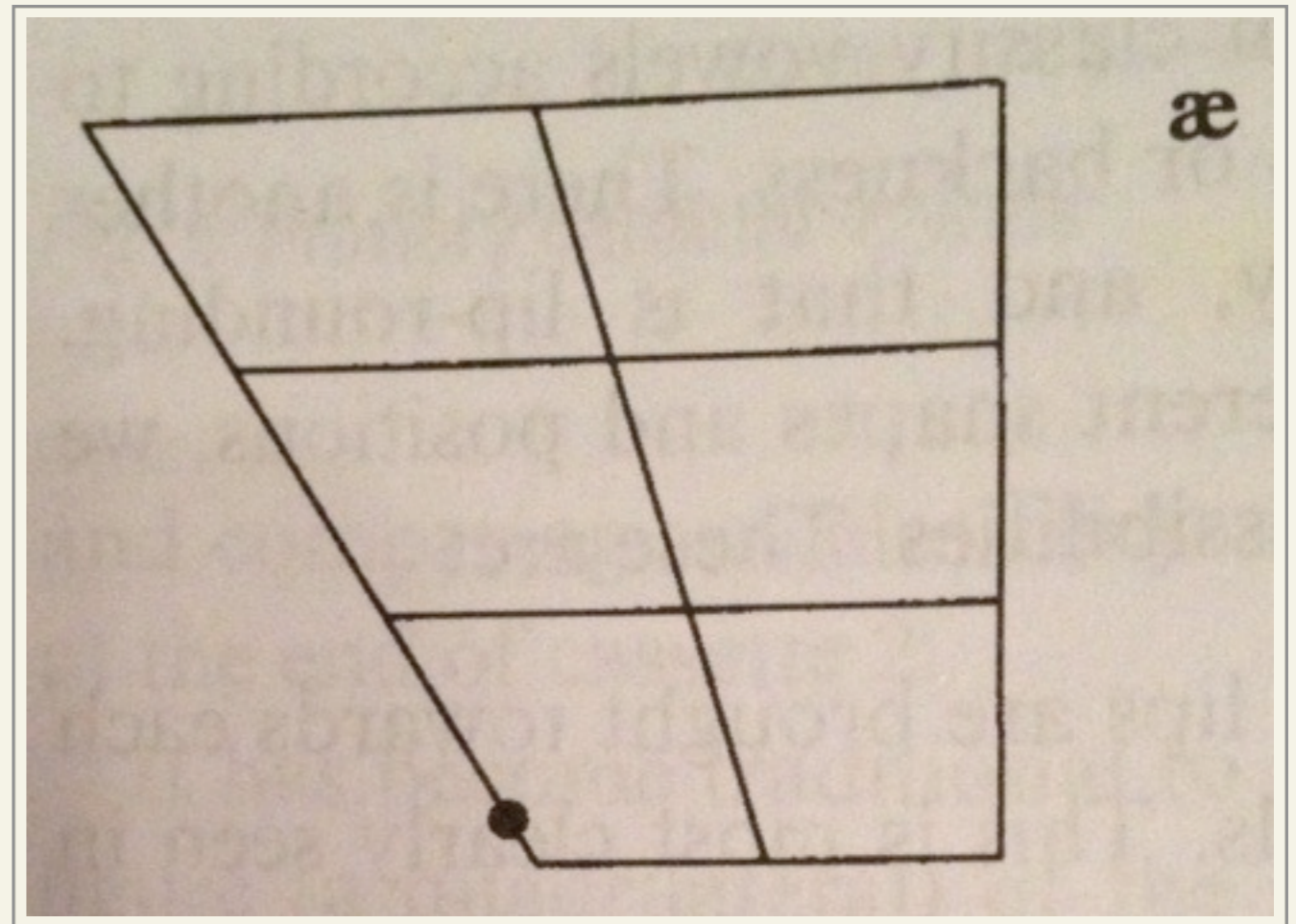
Short Vowels

3. [æ] as in

bat, man, gas

is a *front open vowel*.

The lips are slightly *spread*.



Vowels

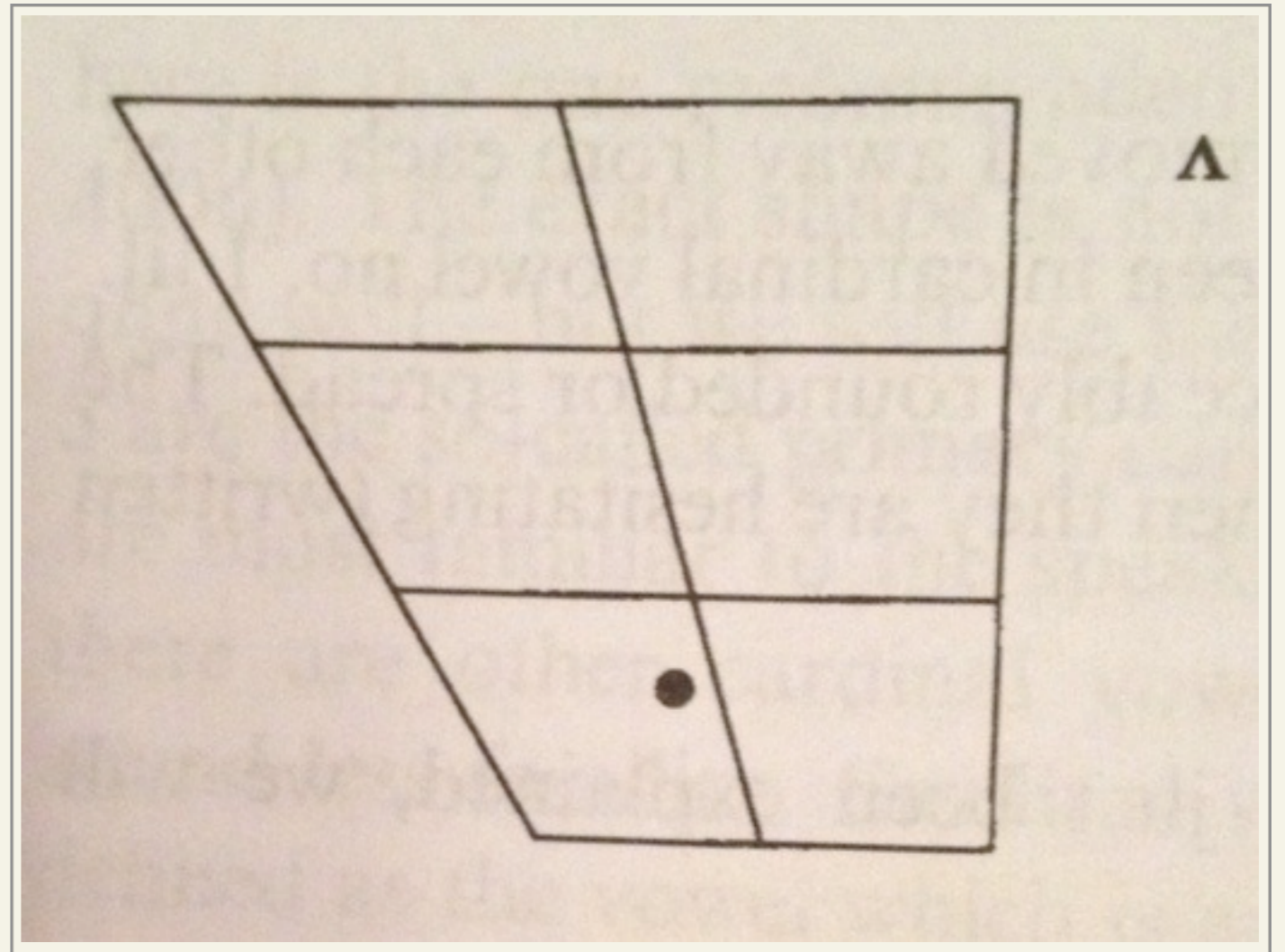
Short Vowels

4. [ʌ] as in

but, some, rush

is a *central open vowel*.

The lips are *neutral*.



Vowels

Short Vowels

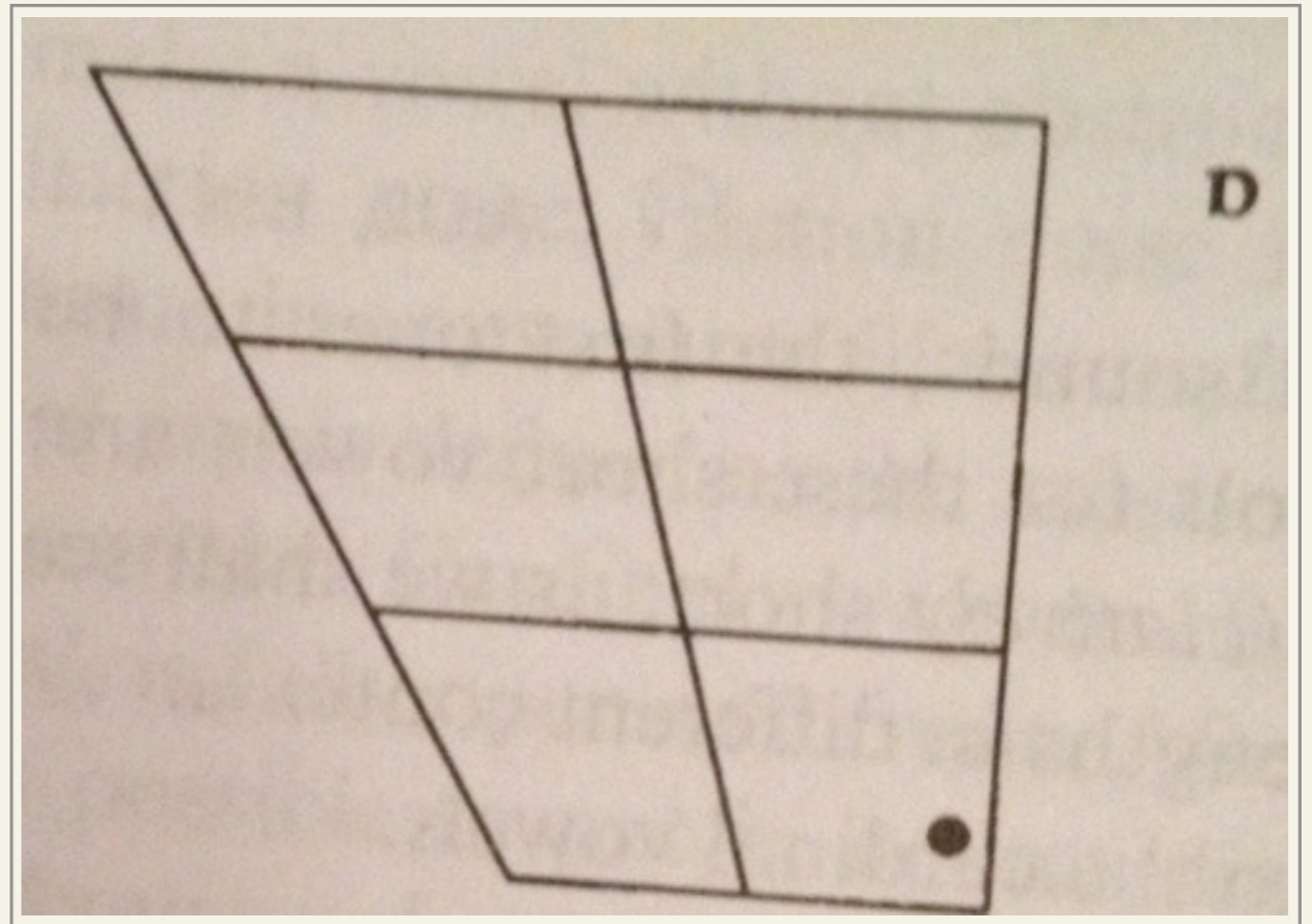
5. [ɒ] as in

pot, gone, cross

is a *back*

open-mid vowel.

The lips are
slightly **rounded.**



Vowels

Short Vowels

6. [ʊ] as in

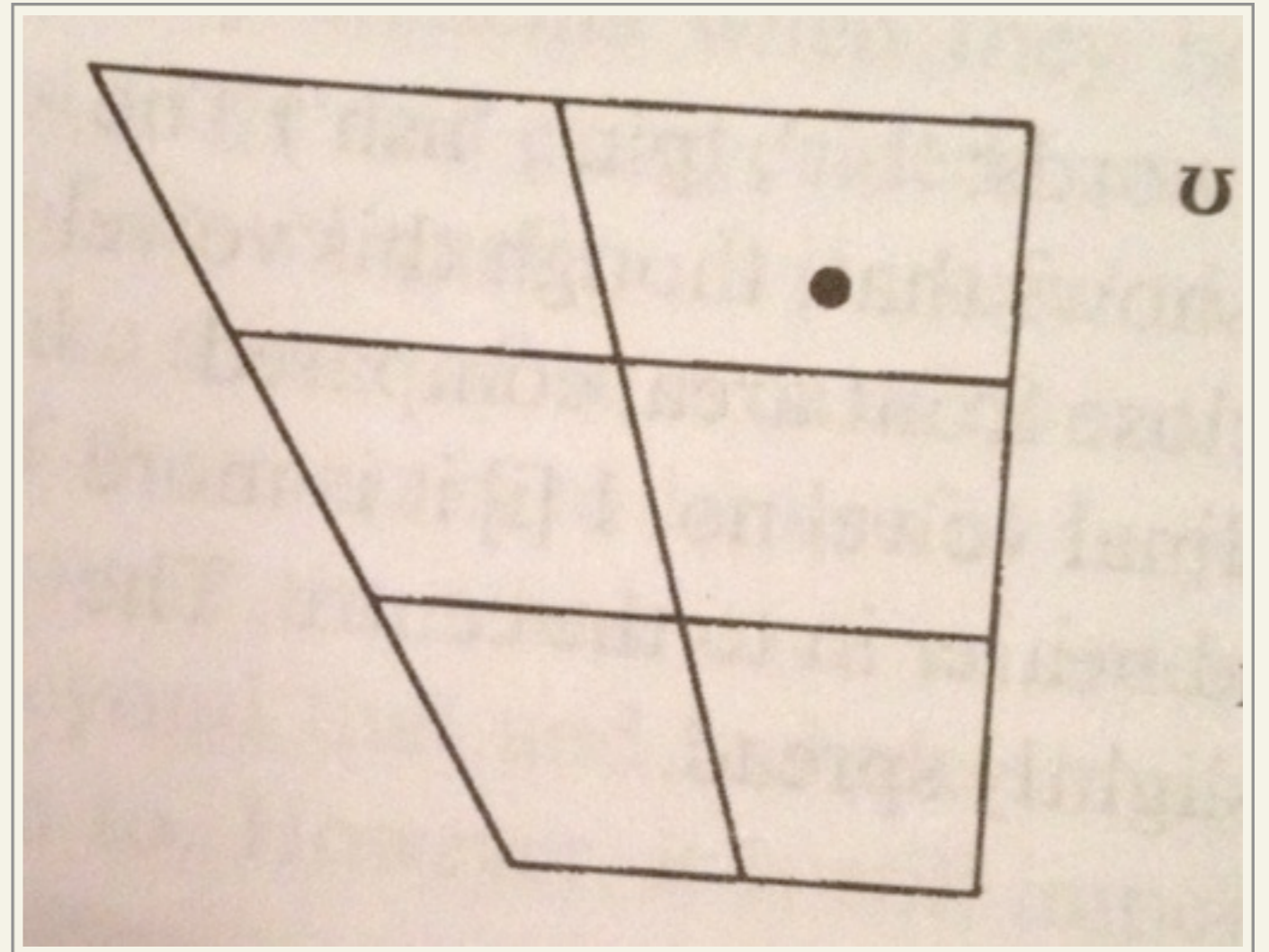
pull, put, push

is a *central*

open vowel.

The lips are

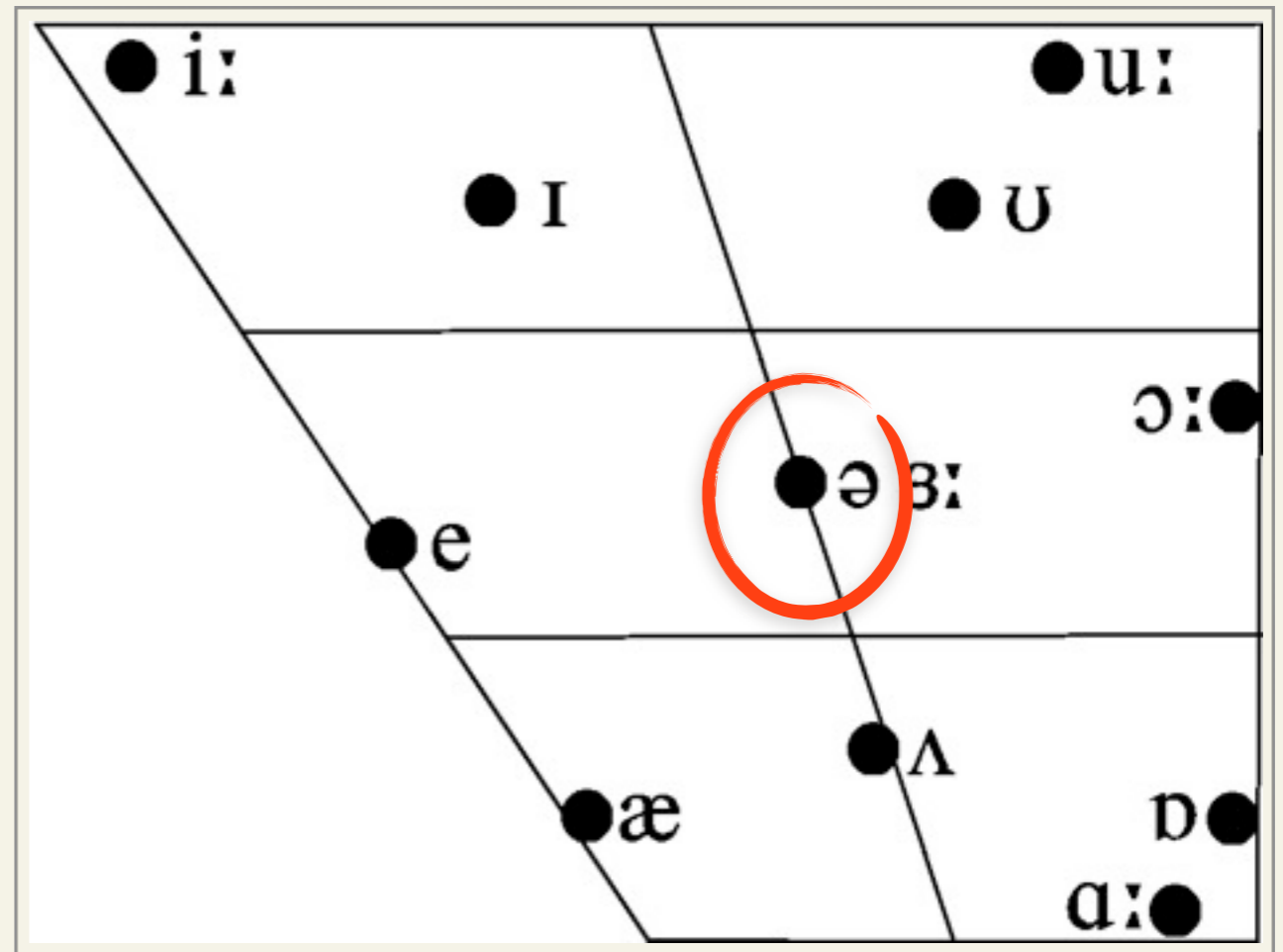
rounded.



Vowels

Short Vowels

7. [ə] called
(schwa) as in
oppose, about,
perhaps
is a *central*
close vowel.

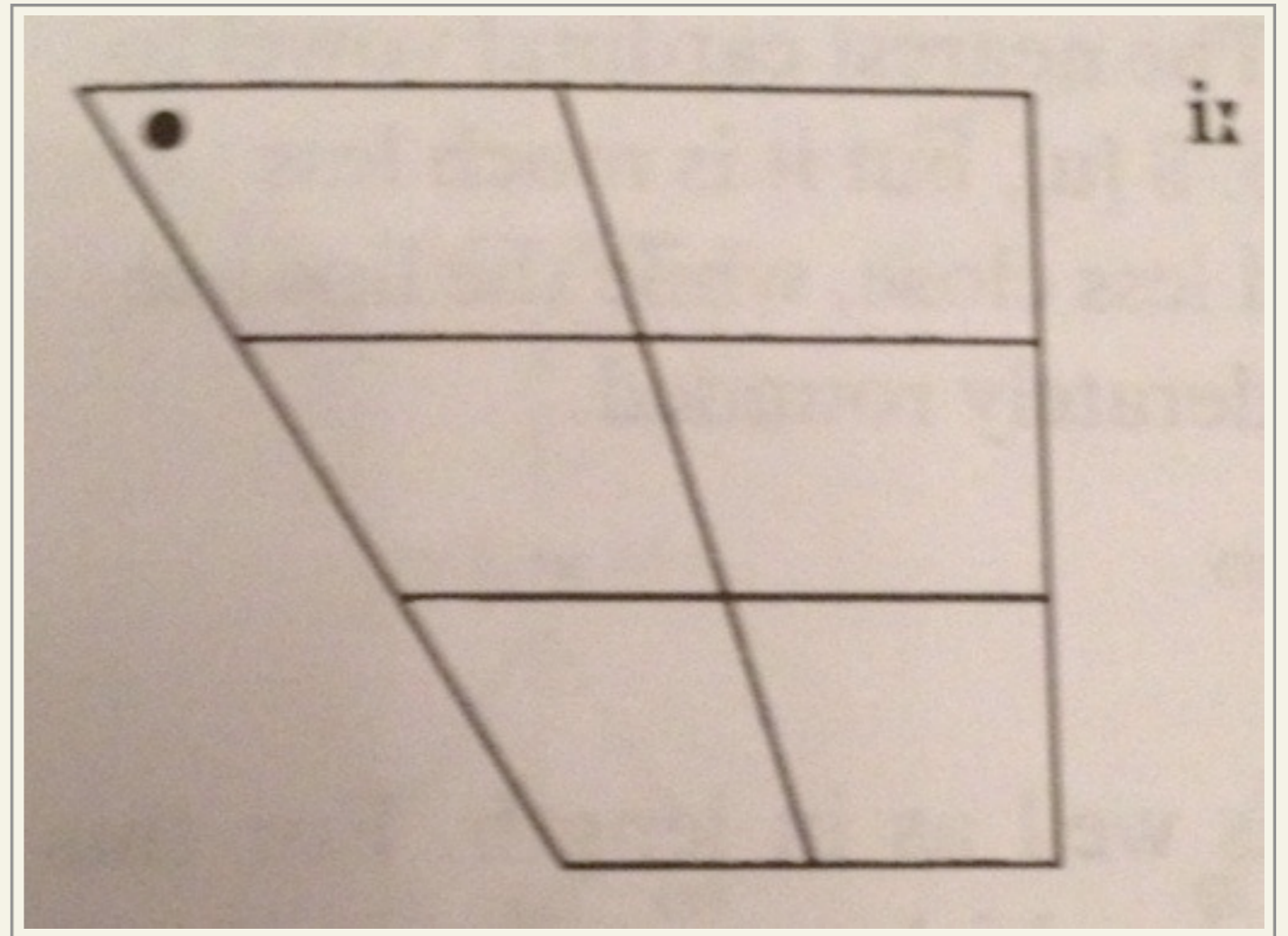


Vowels

Long Vowels

1. [i:] as in
beat, meat, peace
is a *close front*
vowel.

The lips are
slightly **spread**.



Vowels

Long Vowels

2. [ɜ:] as in

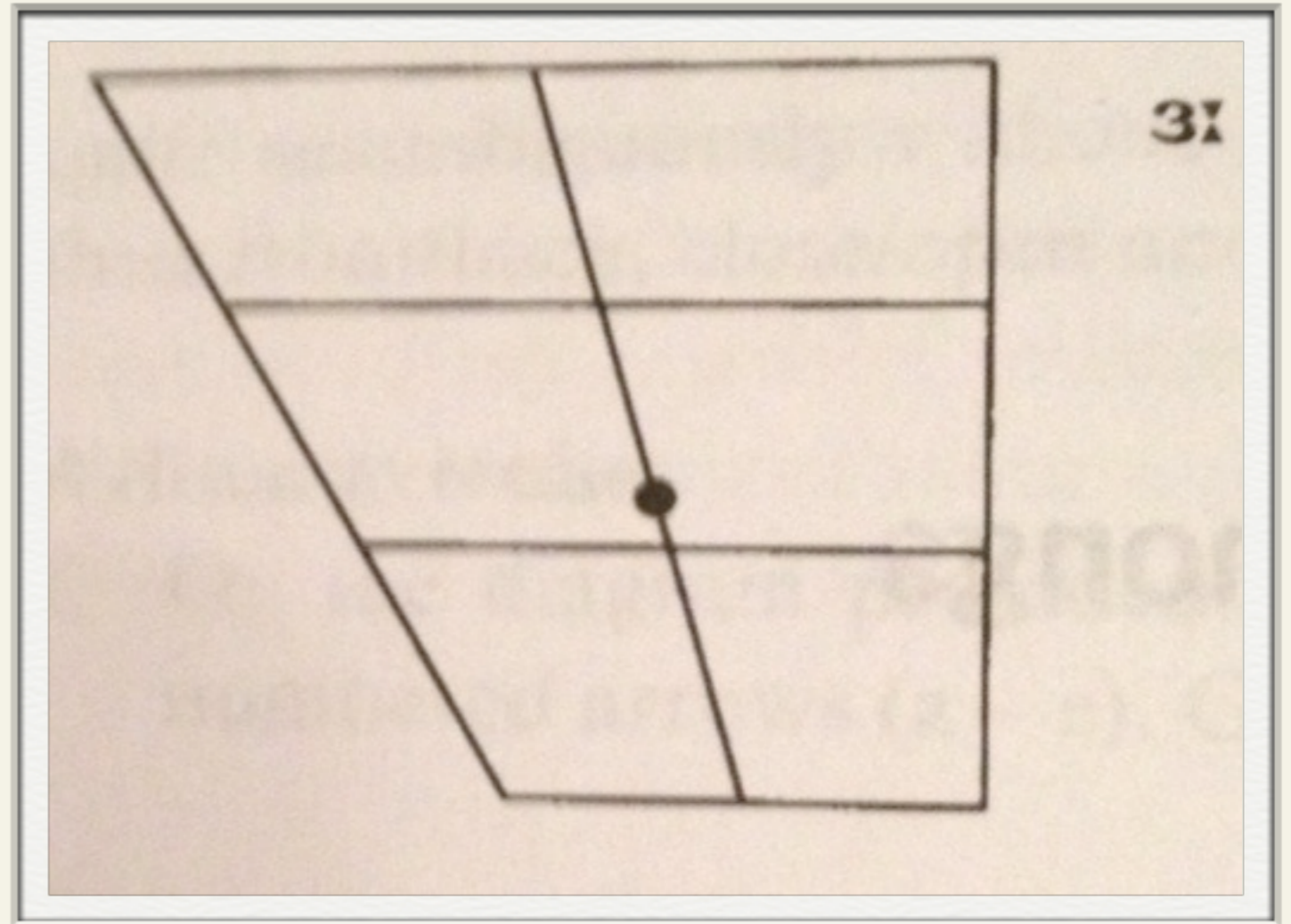
bird, fern, purse

is a *central*

mid-open vowel.

The lips are

neutral.



Vowels

Long Vowels

3. [ɑ:] as in

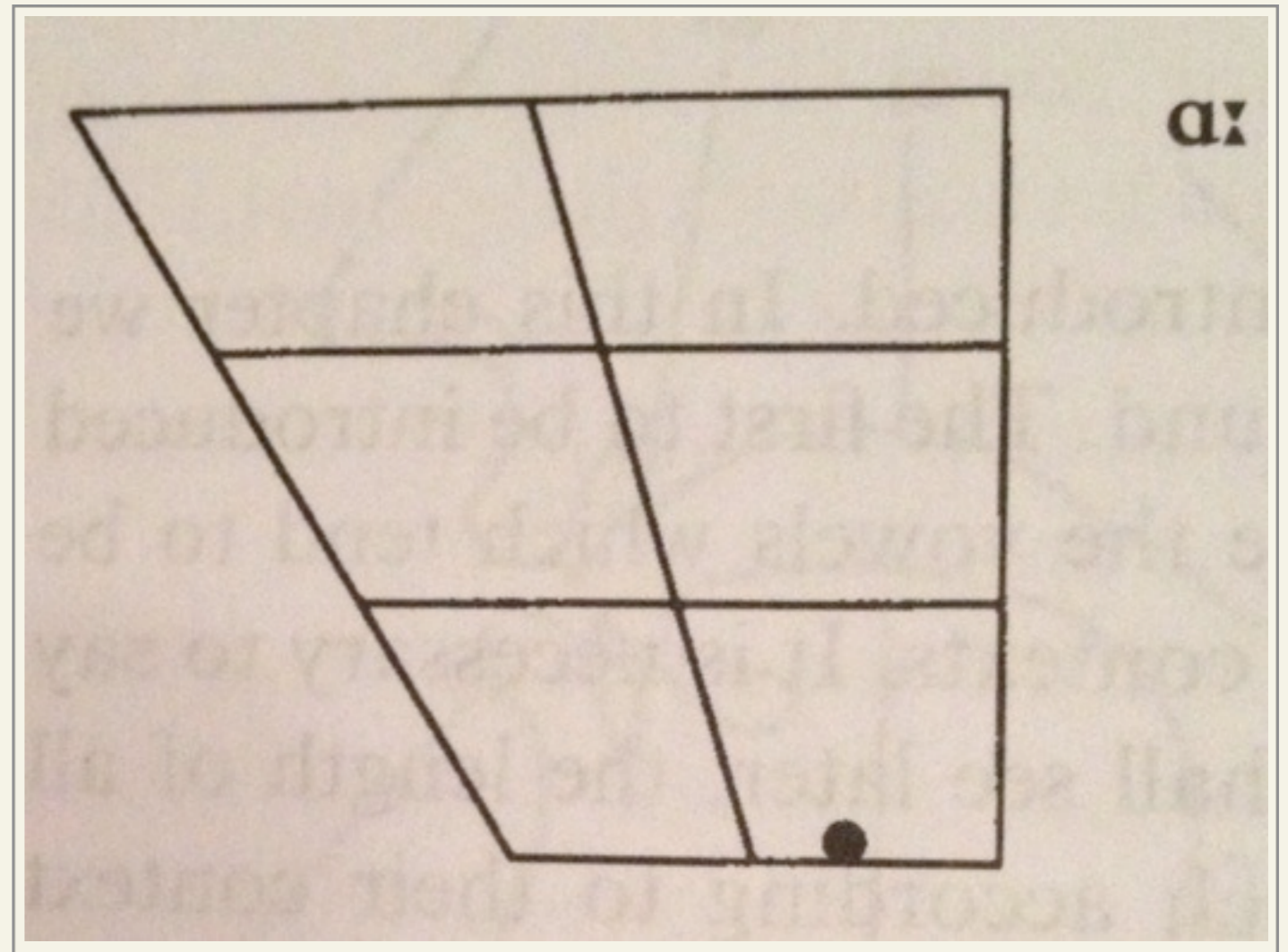
card, hall, pass

is a *mid-back*

open vowel.

The lips are

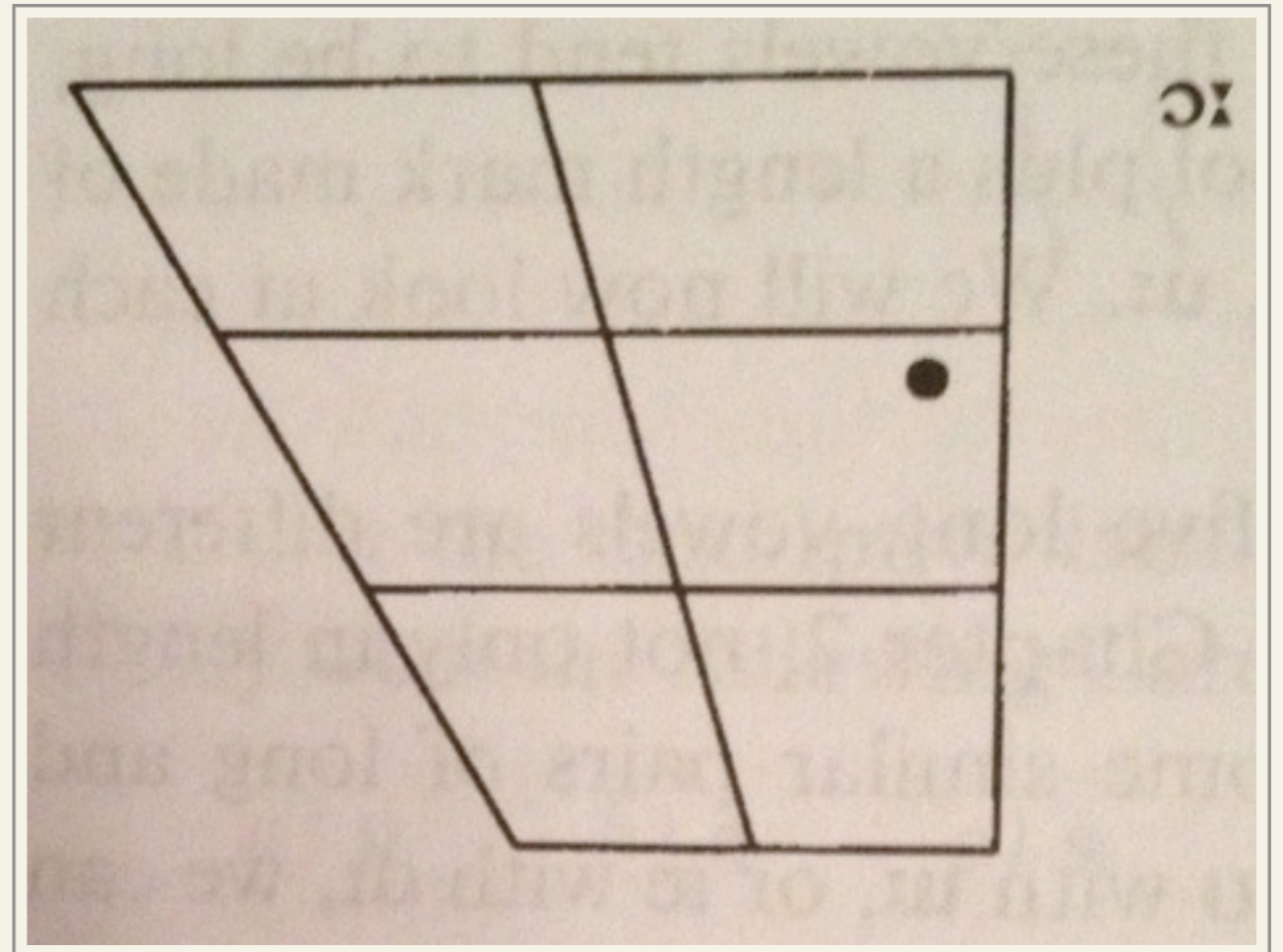
neutral.



Vowels

Long Vowels

4. [ɔ:] as in
board, torn, horse
is a *back*
half-close vowel.
The lips are
strongly **rounded**.

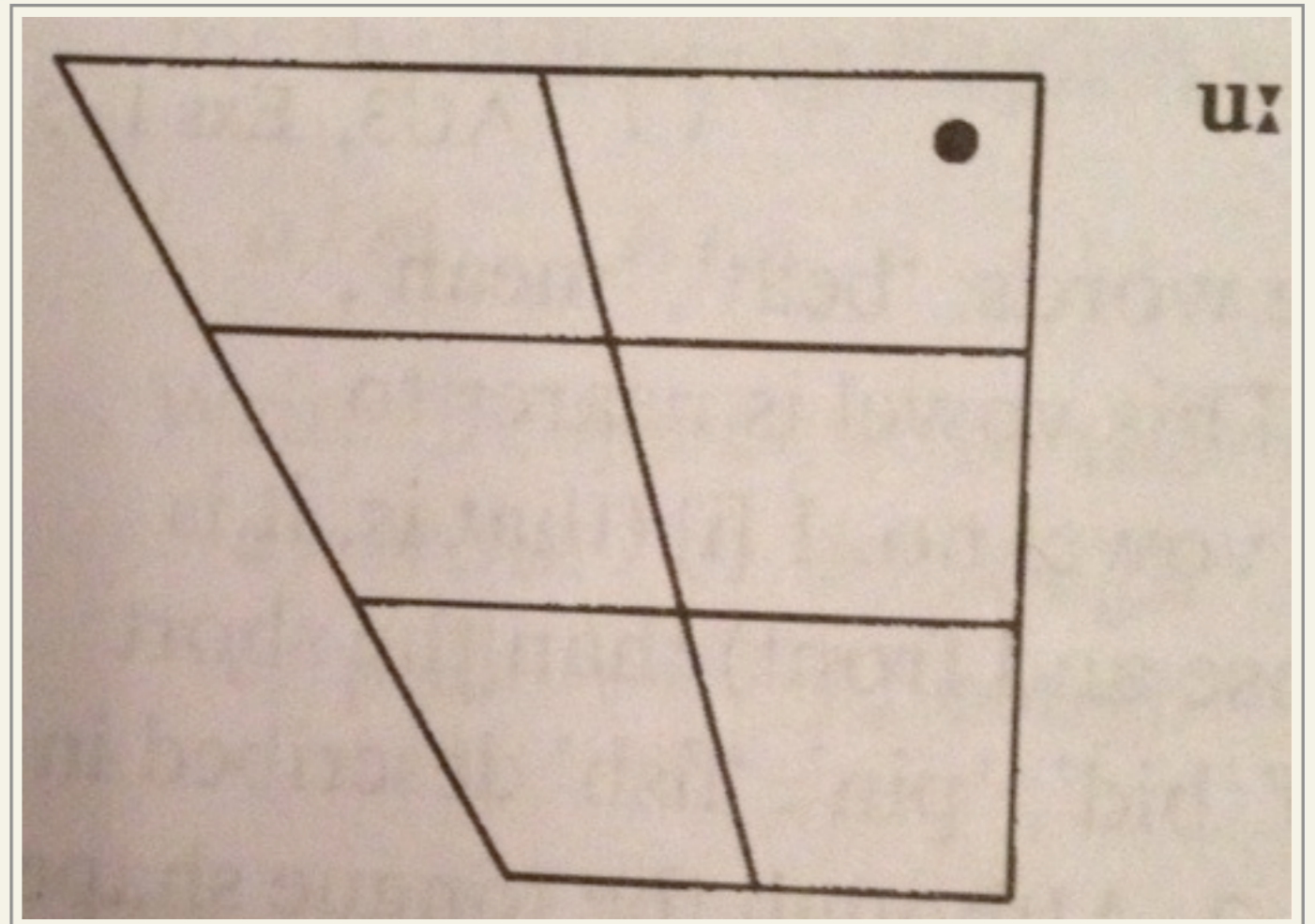


Vowels

Long Vowels

5. [u:] as in
food, soon, loose
is a *back close*
vowel.

The lips are
moderately
rounded.



Vowels