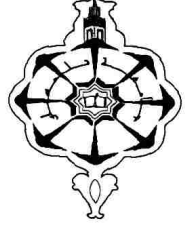# الجمهورية الجزائرية الديمقراطية الشعبية

People's Democtratic Republic Of Algeria

وزارة التعليم العالي و البحث العلمي

Ministry Of Higher Education And Scientific Research

جامعة أبو بكر بلقايد – تلمسان

كلية الآداب و اللغات

<u>المجلس العلمي</u>

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(مستخرج) من محضر المجلس العلمي للكلية

manuel pédagogique

<u>سند بيداغوجي</u> للأستاذة: د/ بن عدلة لامياء .... BENADLA Lamia

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Phonetics

المعد من قبل: د/بن عدلة لامياء ....BENADLA Lamia

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المجلس العلمي

أ.د/ والي مداحة عبد الحكيم

رئيس المجلس العلمي

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Faculty of Letters and Languages

قسم:اللغة الانجليزية

Department of English

SUPPORT PEDAGOGIQUE عقـــد بيـــداغوجي

INTITULE DU POLYCOPIE PEDAGOGIQUE :

Phonetics

Destiné aux étudiants de niveau : L1

Auteur : Dr Lamia BENADLA

Grade : Maitre de Conférence-B-

Laboratoire de rattachement : Studies in Linguistics and Didactics (SILAD LAB)

Année universitaire : 2024 /2025

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Preface

Understanding the fundamentals of phonetics and phonology is one of the challenges students are encountering when learning English as a foreign language. This pedagogical support aims to provide a comprehensive introduction to the basics of English phonetics and phonology, focusing primarily on segmental features. Phonetics and phonology form the backbone of effective communication in any language. They encompass the sounds we produce and how these sounds function within a given language. For English learners, mastering these aspects is crucial not only for accurate pronunciation but also for enhancing listening skills and overall language comprehension.

This document is designed to serve as a resource for both students and educators, offering clear explanations, practical exercises, and illustrative examples. We aim to equip learners in Aboubakr Belkaid University with the tools necessary to articulate their thoughts clearly and confidently in English. Through this exploration, we hope to foster a deeper appreciation for the beauty of the English language and its diverse accents while addressing common challenges faced by non-native speakers. We hope also to provide fellow teachers with a diversification of pedagogical resources in order to enrich their courses and to facilitate learning to their students.

Dr. BENADLA, Lamia

Tlemcen, November 14th , 2024

List of Abbreviations

EFL: English as a Foreign Language

GA: General American

IPA: International Phonetic Alphabet

RP: Received Pronunciation

List of Figures

Key to English Phonemes and their IPA Transcription

Consonant Sounds

/p/   pay, cap

/b/   but, rob

/t/   tie, cat

/d/   die, bed

/k/   cat, key

/g/   go, bag

/m/   may, ham

/n/   no, ten

/ŋ/   sing, finger

/f/   fee, leaf

/v/   vow, leave

/θ/   thigh, bath

/ð/   they, this

/s/   so, kiss

/z/   zoo, buzz

/ʃ/   she, cash

/ʒ/   genre, vision

/h/   he, ahead

/tʃ/   church, match

/dʒ/   judge, age

/l/   lie, bell

/ɹ/   rye, car

/j/   yes, yellow

/w/   we, quick

Vowel Sounds

 Short Vowels

/ɪ/   sit, bit

/e/   bed, said

/æ/   cat, man

/ʌ/   cut, luck

/ʊ/   put, foot

/ɒ/   dog (British), hot

/ə/   about, sofa

Long Vowels

 /iː/   see, beat

/eɪ/   say, face

/ɑː/   car (British), father

/ɔː/   law (British), more (British)

/uː/   blue, food

/ɜː/   her, bird

Diphthongs

/aɪ/   my, fly

/aʊ/   now, cow

/ɔɪ/   boy, toy

/eə/   care (British), air

/ɪə/   near (British), beer (British)

 /əʊ/   go (British), no

Triphthongs

/aʊə/   power, hour

/aɪə/   fire, liar, buyer

/eə/   player, layer

/jʊə/   cure, pure

/ɔɪə/   royal, loyal

Table of Content

1. Introduction to Phonetics and Phonology

Phonetics and phonology are fundamental branches of linguistics that explore the sounds of human speech, playing a crucial role in understanding the structure and function of language. Phonetics focuses on the physical properties of sounds, including their articulation, acoustic properties, and auditory perception.(*Sheffield*, n.d.) It examines how speech sounds are produced by the vocal apparatus, how they travel through the air as sound waves, and how they are perceived by listeners. In contrast, phonology delves into the abstract, cognitive aspects of sounds, investigating how they function within a particular language system and how they interact with one another. This section will specifically address English phonology, highlighting its unique sound patterns, rules governing sound combinations, and the significance of phonemic distinctions that contribute to meaning. By examining both phonetics and phonology, we can gain a deeper understanding of the complexities of English sound systems and their implications for communication.

1.1 Definition of Phonetics

Phonetics is a branch of linguistics that investigates the physical properties of human speech sounds, focusing on their production, transmission, and perception (Ashby, M., & Maidment, J. (2005)). It encompasses three primary sub-disciplines; mainly; *Articulatory phonetics*; which studies how speech sounds are produced using the vocal organs (Baker, A. (2011)), and *Acoustic phonetics*, which examines the properties of sound waves generated during speech (Crystal, D. (2008)), in addition to *Auditory phonetics*; which explores how these sounds are received and processed by the human ear.

Phonetics is crucial for classifying speech sounds into distinct categories, often represented through the *International Phonetic Alphabet (IPA)*, which assigns unique symbols to each sound, facilitating accurate transcription and analysis across different languages(Collins, B., & Mees, I. M. (2013)). Therefore, by understanding phonetics, researchers can gain insights into the complexities of

speech production and perception, as well as apply this knowledge in various fields such as language teaching, speech therapy, and forensic investigations.

1.2 Branches of Phonetics

Phonetics is divided into three main branches adopting different approaches to speech sounds. Each branch focuses on different aspects of speech sounds and has distinguished applications.

1.2.1 Articulatory Phonetics

Articulatory phonetics studies how speech sounds are produced by the movement of the vocal organs, including the tongue, lips, and vocal cords. It examines the physical processes involved in sound production, categorizing sounds based on their place and manner of articulation. For example, it distinguishes voiced and voiceless sounds, such as /b/ (voiced) and /p/ (voiceless). Applications of articulatory phonetics are significant in fields like language education and speech therapy, where understanding sound production can help in teaching pronunciation or diagnosing speech disorders. (*Studysmarter*, (n. d.)). It is the approach to sounds mostly adopted in this document, considering that we are targeting production of English sounds by Tlemcen university students, contrary to Acoustic phonetics, which necessitate developed equipments to be adopted.

1.2.2 Acoustic Phonetics

Acoustic phonetics focuses on the properties of sound waves produced during speech. It analyzes the frequency, amplitude, and duration of these sound waves using tools like spectrograms and oscillograms (Gussenhoven, C., & Jacobs, H. (2017)). This branch is crucial for understanding how sounds travel through different media and can be used in various applications such as voice recognition technology and audio engineering. For instance, researchers can use acoustic analysis to identify unique patterns in speech that may help in forensic linguistics or in developing more natural-sounding text-to-speech systems (Yule, G., &

Brown, K. (2016)). In simpler terms, acoustic phonetics studies how sound travels in air to reach the reception device, namely the ear.

1.2.3 Auditory Phonetics

Auditory phonetics investigates how humans perceive and process speech sounds. It explores the physiological and psychological mechanisms involved in hearing, including how the brain interprets sound waves as linguistic information. This branch has applications in audiology and cognitive science, where understanding auditory perception can inform treatments for hearing impairments or enhance language learning strategies (Roach, P. (2009)). For instance, auditory phonetics can help develop effective listening exercises for language learners by focusing on how different sounds are perceived by native speakers versus non-native speakers. When we explain sounds in class, we refer to some terminologies in phonetics, like strident sounds; and it is referred to the fact that this description relates to the effect they give in the hearer's ear.

Hence, these three branches provide a comprehensive framework for analyzing speech sounds from production to perception, contributing to advancements in linguistics, technology, and communication sciences. Teachers and students of English as a Foreign Language, or EFL for short need to explore the uses of these branches to approach speech sounds from different standpoints, and to come eventually to a better understanding of language secrets.

1.3 Phonetics vs Phonology

Phonetics is a branch of linguistics that focuses on the physical properties of speech sounds. Its scope covers physical characteristics; it deals with the actual sounds produced by humans, analyzing their articulatory, acoustic, and auditory properties. It possesses universal Focus encompassing all human languages and is concerned with universal aspects of speech sounds, regardless of specific linguistic contexts. Therefore, it approaches language using concrete analysis providing empirical data

about how sounds are made and perceived without necessarily linking them to meaning.

Phonology, on the other hand, is the study of how sounds function within a particular language or languages. It examines the abstract systems and rules that govern sound patterns, focusing on phonemes as the smallest units of sound that can change meaning in a language. Phonology investigates how sounds are organized in the mind, their distribution within words, and the rules governing their combination (phonotactics). Unlike phonetics, which deals with concrete sound production, phonology abstracts away from physical properties to understand sound patterns and their meanings

Phonology scope covers abstract Systems. It focuses on the abstract representation and organization of sounds within a specific language system. It studies how these sounds interact and convey meaning. Therefore, phonology is language-pecific, i.e. while phonetics is universal, phonology is often language-specific, exploring the unique sound patterns and rules that characterize individual languages. It, additionally, provides functional analysis, examining how sounds function in communication, including their roles in distinguishing meaning and forming grammatical structures.

Phonetics and phonology are interrelated; phonetics provides the empirical foundation for phonological theories. While phonetics analyzes the physical properties of sounds, phonology uses this data to understand how these sounds are organized and utilized within a language system. This relationship highlights that while phonetics focuses on "how" sounds are produced and perceived, phonology addresses "why" certain sound patterns exist and how they contribute to meaning. Phonetics is concerned with the physical aspects of speech sounds across all languages, whereas phonology focuses on the abstract organization and functional use of these sounds within specific languages.

In phonetics, understanding phonemes and allophones is crucial for analyzing the sounds of a language. Phonemes are the smallest units of sound that can distinguish meaning, while allophones are variations of a phoneme that do not change the meaning of a word. The elementary unit in phonology is the phoneme, because it deals with abstract entities, while, phonetic realizations of these phonemes into concrete sounds is referred to as allophones.

1.4 Activities

Questions:

Exercise 1: Minimal Pairs

Identify the minimal pairs from the following list that demonstrate phonemic differences.

1. bat - pat

2. lip - tip

3. seat - sit

4. fan – van

Exercise 2 what is a phoneme? Provide an example from English.

Exercise 3: What is the difference between a phoneme and an allophone?

Exercise4: What are the main branches of phonetics, and what does each branch study?

Answer1

1. bat - pat (differ by initial consonant /b/ vs. /p/)

2. lip - tip (differ by initial consonant /l/ vs. /t/)

3. seat - sit (differ by vowel sound /i:/ vs. /ɪ/)

4. fan - van (differ by initial consonant /f/ vs. /v/)

Answer2:

A phoneme is the smallest unit of sound in a language that can change the meaning of a word. Phonemes do not necessarily have meaning by themselves, but their differences can distinguish words. For example, in English, the words "bat" and "pat" differ only in their initial sound: /b/ and /p/. The sounds /b/ and /p/ are distinct phonemes because substituting one for the other changes the meaning of the word.

Answer3:

A phoneme is a distinct sound unit in a language that can change the meaning of a word, whereas an allophone is a variant or realization of a phoneme that does not change the meaning of a word. Allophones are context-dependent and are typically produced differently depending on their position in a word or surrounding sounds, but they are still considered the same phoneme. For example, in English, the phoneme /p/ has two allophones: [pʰ] (as in "pat," with aspiration) and [p] (as in "spat," without aspiration). These two sounds are perceived as the same phoneme by native speakers, even though they are articulated differently.

Answer4:

The main branches of phonetics are:

1. Articulatory phonetics: Studies how speech sounds are produced by the movement of the articulatory organs (e.g., tongue, lips, teeth, etc.).

2. Acoustic phonetics: Focuses on the physical properties of sound waves, such as frequency, amplitude, and duration, and how they relate to speech sounds.

3. Auditory phonetics: Investigates how speech sounds are perceived by the listener, including how the ear processes sounds and how the brain interprets them.

2. Overview of Key Concepts

This section exposes necessary terminology and crucial concepts for an adequate mastery of the domain of phonetics and phonology. It involves explanations related to human articulators responsible for speech production, be it above the larynx or beyond it, highlighting the role of each organ involved in speech.

2.1 Speech Organs

Understanding the production of speech sounds requires a clear grasp of the various speech organs involved in articulation. The following diagramme illustrates the primary organs of speech, which play crucial roles in sound formation:
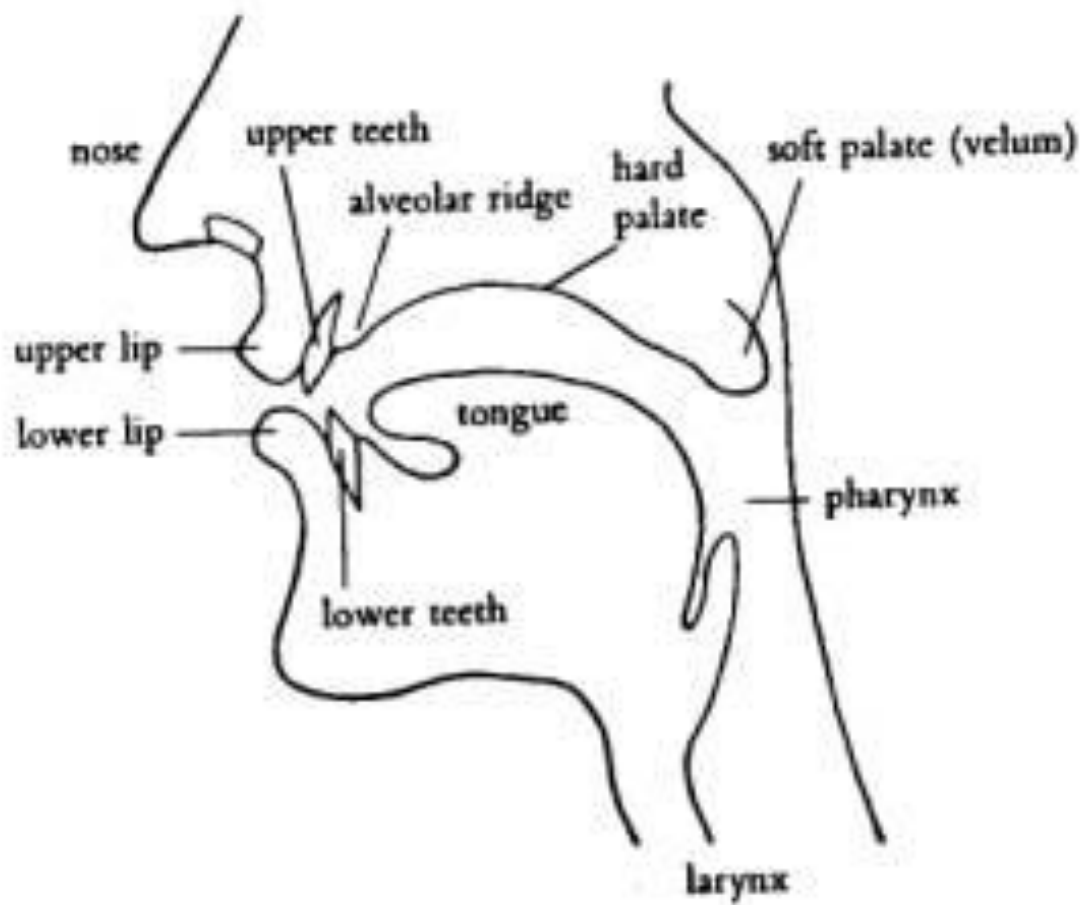
Figure 1

Diagramme of Speech Organs

1

Figure. 1 is a diagramme that is used frequently in the study of phonetics. It represents the human head, seen from the side, displayed as though it had been cut in half, i.e. a lateral view. You will need to look at it carefully as the articulators are described, and you will often find it useful to have a mirror and a good light placed so that you can look at the inside of your mouth. It represents Articulators above the larynx.

All the sounds we make when we speak are the result of muscles contracting. The muscles in the chest that we use for breathing produce the flow of air that is needed for almost all speech sounds; muscles in the larynx produce many different modifications in the flow of air from the chest to the mouth. After passing through the larynx, the air goes through what we call the vocal tract, which ends at the mouth and nostrils. Here the air from the lungs escapes into the atmosphere. We have a large and complex set of muscles that can produce changes in the shape of the vocal tract, and in order to learn how the sounds of speech are produced it is necessary to become familiar with the different parts of the vocal tract. These different parts are called articulators, and the study of them is called articulatory phonetics. The paragraphs below explain how these speech organs contribute in speech sounds production. You can refer to figure1 to locate each of these organs.

The pharynx is a tube which begins just above the larynx. (Roach, P. (2009))It is about 7 cm long in women and about 8 cm in men, and at its top end it is divided into two, one part being the back of the mouth and the other being the beginning of the way through the nasal cavity. If you look in your mirror with your mouth open, you can see the back of the pharynx. It is used in the production of pharyngeal sounds like the voiceless pharyngeal fricative [ħ] and voiced pharyngeal fricative [ʕ], which are key examples of pharyngeal sounds in Arabic.

The velum or soft palate is seen in the diagram in a position that allows air to pass through the nose and through the mouth. Yours is probably in that position now, but often in speech it is raised so that air cannot escape through the nose. The other important thing about the velum is that it is one of the articulators that can be

touched by the tongue. When we make the sounds k and g the tongue is in contact with the lower side of the velum, and we call these velar consonants.

The velum plays several key roles, mainly:

- Closure of the Nasal Cavity: When producing oral sounds, the velum raises to close off the nasal cavity, preventing air from escaping through the nose. This is essential for producing clear oral sounds like vowels and consonants (e.g., /b/, /d/).
- Production of Nasal Sounds: For nasal sounds (like /m/, /n/, and /ŋ/), the velum lowers, allowing air to flow through both the mouth and nose. This dual airflow is what characterizes nasal sounds. The explanation is illustrated in Figures 2 below

Speech Sound Structures
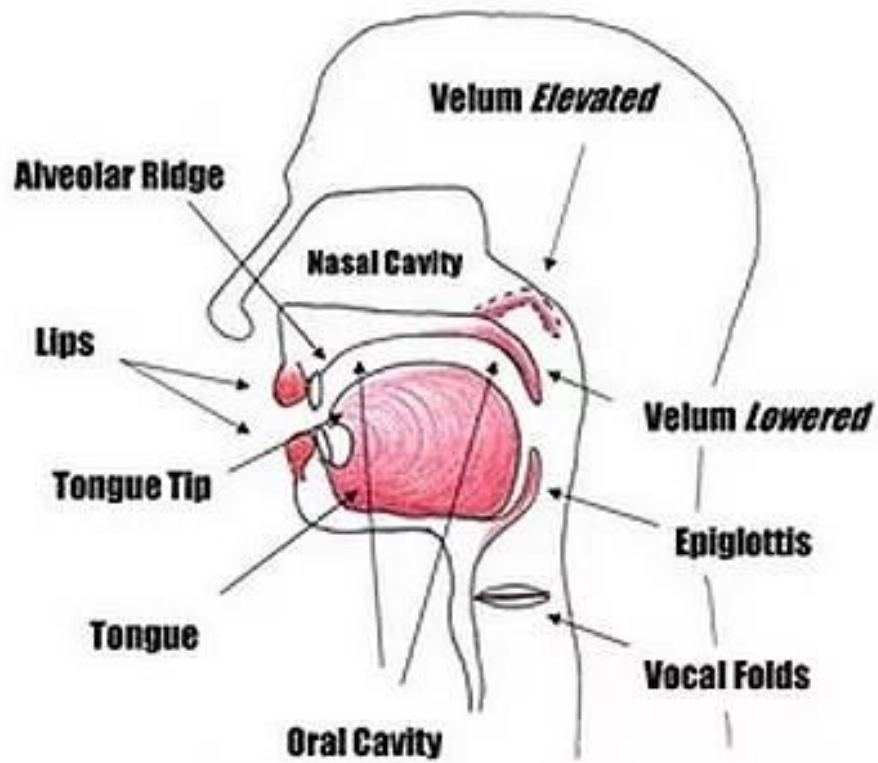
Figure 2 Shape of velum
Elevated vs Lowered

2

2 Quoted in xspeechsoundstructures2.jpg.pagespeed.ic.uceGi1bT3w.webp

The velum has, also, the function of Influence on vowel quality in the sense that its position can affect vowel quality by creating either nasalized or oral vowels. In languages that utilize nasalized vowels, such as French, the velum remains lowered during vowel production.

```
+------------------+
|                  |
|     Nasal        |
|     Cavity       |
|                  |
+------------------+
        |   ^
        |   |
        |   | Airflow
        |   |
        v   |
+------------------+
|                  |
|     Velum³       |
|                  |
+------------------+
        / \
       /   \
      /     \
     /       \
  +---------+
  | Oral    |
  | Cavity  |
  +---------+
```
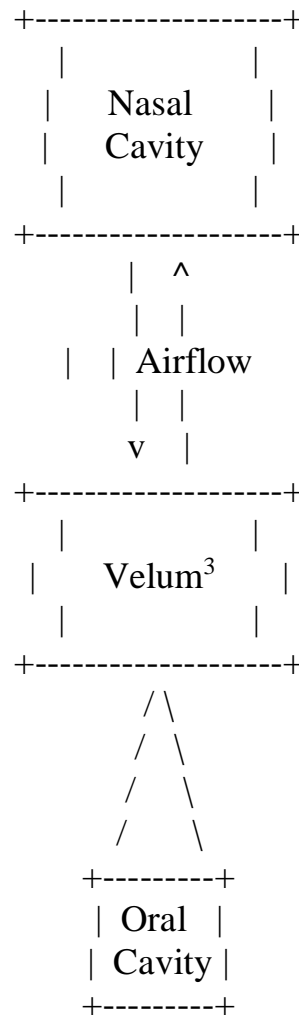
Figure 3 : Diagramme of the
Mechanism of the Velum

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³ Quoted in
https://www.enotes.com/topics/literary-terms/questions/phonology-outline-functions-vellum-speech-110625

Explanation of the Diagramme

When producing oral sounds, the velum is raised (closed), blocking airflow into the nasal cavity.

When producing nasal sounds, the velum is lowered (opened), allowing air to flow through both the mouth and nose.

This mechanism is essential for differentiating between oral and nasal speech sounds in various languages, including English. Understanding how the velum operates helps clarify its critical role in speech production.

The uvula is a small, conical projection that hangs from the back edge of the soft palate.(look at Figure 5, below) It consists of connective tissue, muscle fibers, and numerous glands. Its functions include Speech Production: The uvula can assist in articulating certain sounds, particularly uvular consonants found in some languages (e.g., Arabic and French), as well as Swallowing; During swallowing, the uvula helps close off the nasopharynx to prevent food from entering the nasal cavity. It, also, plays a role in triggering the gag reflex when stimulated.
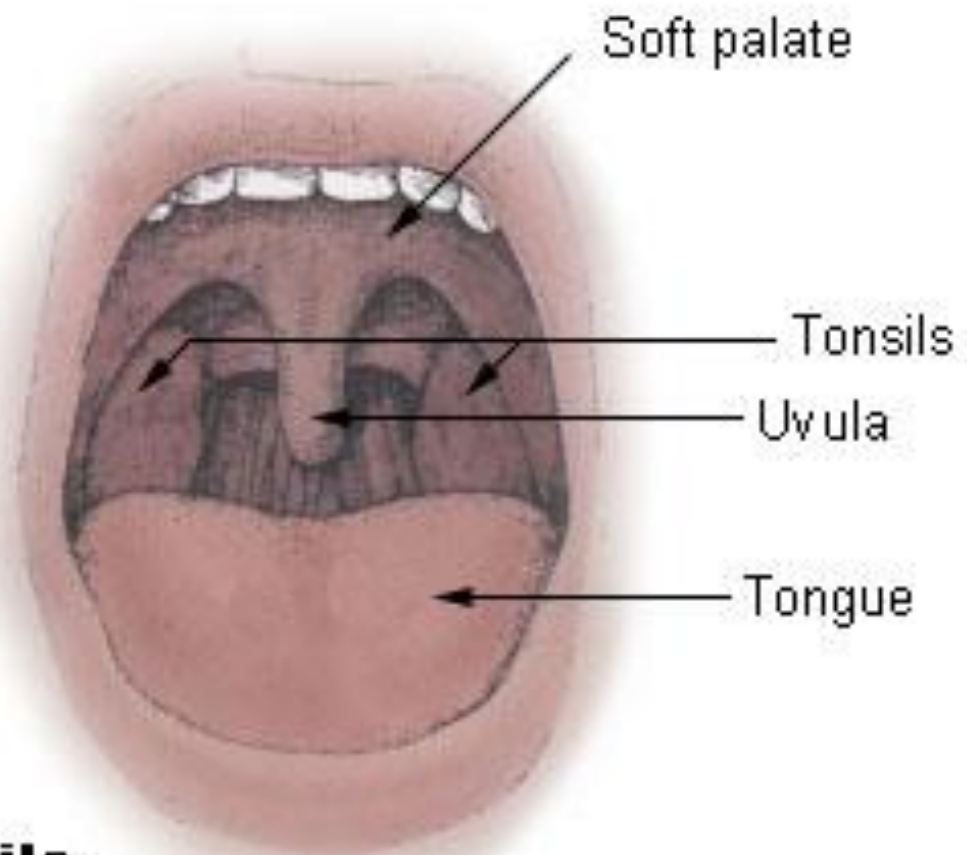
Figure 4: Front view of the
Oral Cavity

4 Quoted in https://upload.wikimedia.org/wikipedia/commons/8/81/Tonsils_diagram.jpg

The hard palate is often called the "roof of the mouth". You can feel its smooth curved surface with your tongue. As its name implies, it gives a sensation of a hard texture due to its bony anatomy. It plays a crucial role in both the anatomy of the oral cavity and the articulation of speech.

In terms of speech articulation, the hard palate is essential for producing certain sounds. It provides a rigid surface against which the tongue can press to create various speech sounds. Sounds produced with the tongue close to the hard palate are termed palatal consonants, such as the sound /j/ in "yes". Additionally, its smooth curved surface allows for precise tongue positioning, which is vital for clear articulation. The hard palate also contributes to passive articulation, where it influences how sounds are formed without requiring active movement from other articulators. This is particularly significant in individuals with speech disorders, such as those with Down syndrome or cleft palates, where variations in hard palate morphology can affect speech clarity. In these cases, orthodontic interventions may help improve articulation by modifying palatal anatomy to enhance tongue contact during speech production. Therefore, the hard palate's structural integrity and its interaction with the tongue are critical for effective communication, making it a fundamental component of both oral anatomy and phonetics. (Quoted in elearning.univ-msila)

You can feel at the front end of your hard palate some folds, or so called ridges. They form the alveolar ridge. It is between the top front teeth and the hard palate. You can feel its shape with your tongue. Its surface is really much rougher than it feels, and is covered with little ridges. You can only see these if you have a mirror small enough to go inside your mouth (such as those used by dentists). Sounds made with the tongue touching here (such as t and d) are called alveolar. (Quoted in speechlanguage-resources)
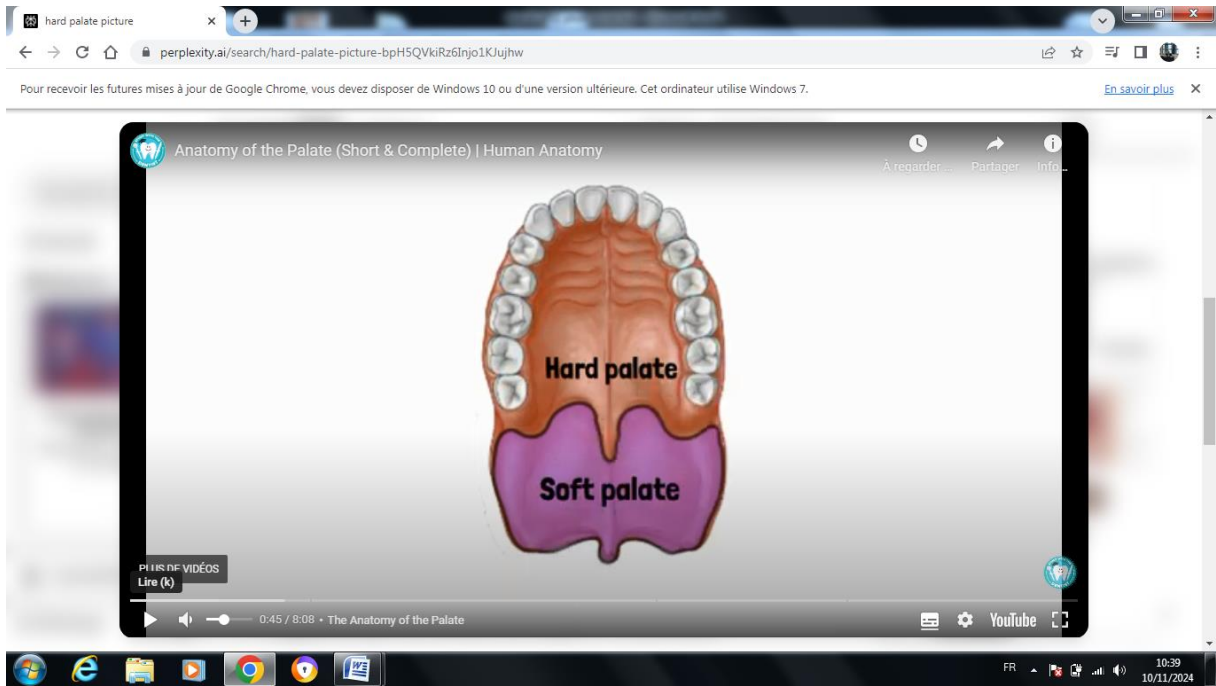
5

Figure 5 : Bottom view of the hard palate and soft palate

The tongue is, of course, a very important articulator and it can be moved into many different places and different shapes. It is a very flexible muscle and a primordial articulator, to the extent that its name in Latin origin languages is associated with language like langue in French or lingua in Spanish. Even in Arabic, the term often used to refer to language is tongue, as reference to its importance in speech articulation.

It is usual to divide the tongue into different parts, though there are no clear dividing lines within the tongue. Figure 5 shows the tongue on a larger scale with these parts shown: tip, blade, front, back and root. (This use of the word "front" often seems rather strange at first.)
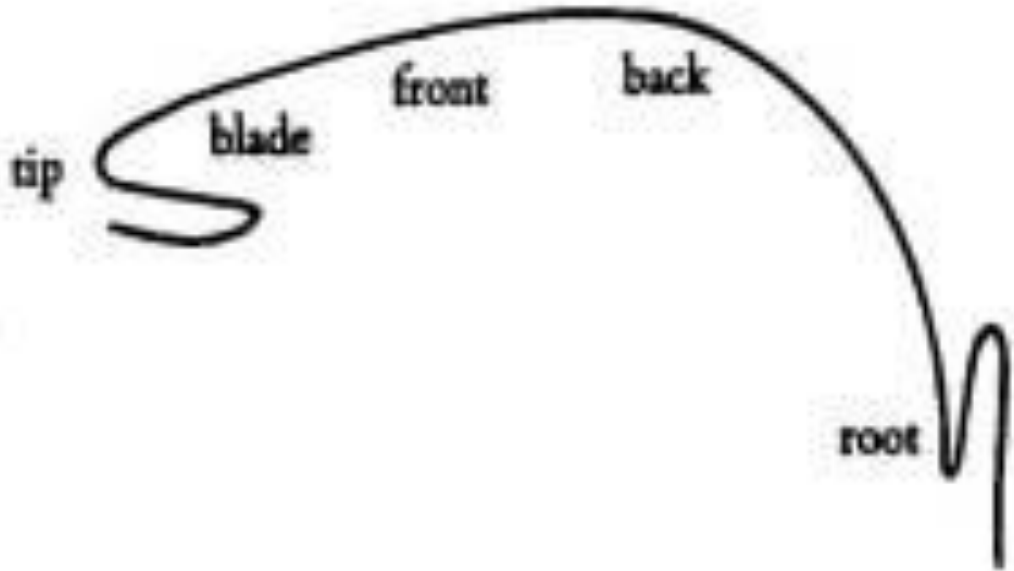
Figure 6 Sub-divisions of the Tongue

The teeth (upper and lower) are usually shown in diagrams like Figure 1 only at the front of the mouth, immediately behind the lips. This is for the sake of a simple diagram, and you should remember that most speakers have teeth to the sides of their mouths, back almost to the soft palate. The tongue is in contact with the upper side teeth for many speech sounds. Sounds made with the tongue touching the front teeth are called dental sounds.

The lips are important in speech. They can be pressed together (when we produce the sounds p , b), brought into contact with the teeth (as in f , v), or rounded to produce the lip-shape for vowels like u. Sounds in which the lips are in contact with each other are called bilabial, while those with lip-to-teeth contact are called labiodental.

The seven articulators described above are the main ones used in speech, but there are three other things to remember. Firstly, the larynx could also be described as an articulator , which is a very complex and independent one. Secondly, the jaws are sometimes called articulators; certainly we move the lower jaw a lot in speaking. But the jaws are not articulators in the same way as the others, because they cannot themselves make contact with other articulators. Finally, although there is practically nothing that we can do with the nose and the nasal cavity, they are a very important part of our equipment for making sounds (what is sometimes called our vocal apparatus), particularly nasal consonants such as m , n . Again, we cannot really describe the nose and the nasal cavity as articulators in the same sense as the described articulators above.

2.2 The Larynx and Voicing

The larynx, often referred to as the voice box, plays a critical role in phonetics and voice production. It houses the vocal folds (or vocal cords), which are essential for generating sound through voicing. Here's an overview of the larynx's functions related to voicing in phonetics.
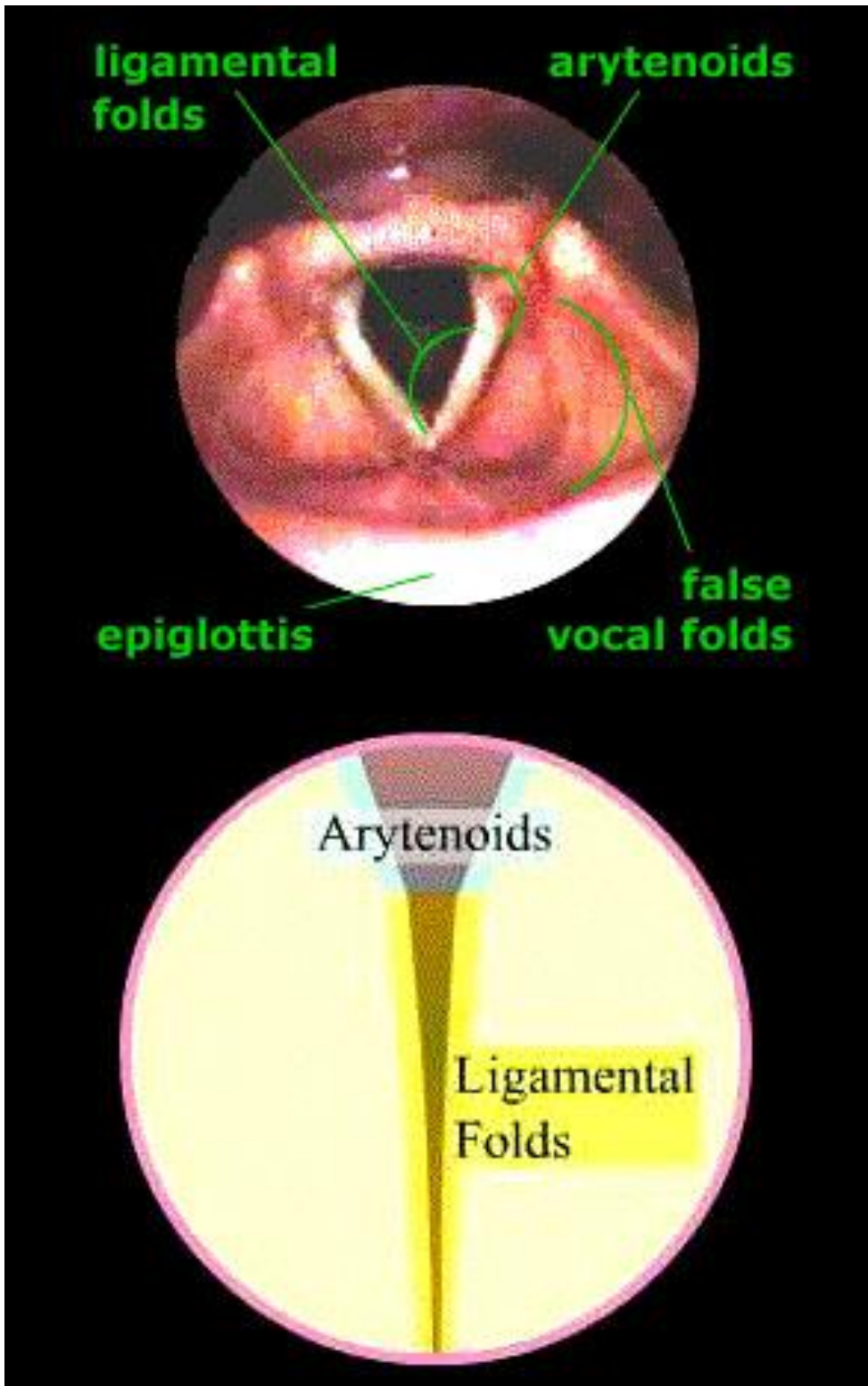
Figure 7 Larynx

The larynx is located at the top of the trachea and consists of several cartilages, including the thyroid, cricoid, and arytenoid cartilages. These structures provide support and facilitate movement necessary for sound production. Vocal Folds, or known as vocal cords are made up of three layers: the epithelium, lamina propria (which has superficial, intermediate, and deep layers), and the thyroarytenoid muscle. This layered structure allows for efficient vibration during phonation.

Voicing occurs in the following mechanism:

Airflow Initiation: Voice production begins with airflow from the lungs, which is controlled by the diaphragm and abdominal muscles. When air is expelled, it travels up through the trachea to the larynx

Vocal Fold Vibration: As air passes through the glottis (the space between the vocal folds), it causes them to vibrate. This vibration is initiated when the vocal folds are brought close together (a state called prephonation) and then blown apart by increased air pressure from below

Bernoulli Effect: The vibration of the vocal folds is sustained by the Bernoulli Effect, where a decrease in pressure occurs as air flows through the narrow glottal opening, pulling the vocal folds back together. The pitch of the voice can be modulated by adjusting the tension and length of the vocal folds. Muscles attached to the laryngeal cartilages allow for fine control over these adjustments, enabling variations in pitch and volume during speech.(Titze, I. R. (2000))

Types of Phonation

- Modal Voice: This is the typical voice quality used in most speech sounds, characterized by regular vibration of the vocal folds.
- Breathy Voice In this type, there is a greater gap between the vocal folds, allowing more air to escape during phonation, resulting in a softer sound.
- Creaky Voice: This occurs when the vocal folds are tightly adducted but vibrate irregularly, producing a low-pitched sound.

- Whispered Voice: In whispering, the vocal folds do not vibrate; instead, air passes through them without creating voiced sounds

The larynx not only facilitates voicing but also contributes to various phonetic features such as:

- Contrastive Voicing Voiced sounds (like /b/, /d/, /g/) are produced with vibrating vocal folds, while voiceless sounds (like /p/, /t/, /k/) occur without vibration.
- Prosodic Features: The larynx also plays a role in prosody—intonation patterns and stress—which can convey meaning beyond individual words.

The larynx is integral to voice production in phonetics, enabling not just sound generation but also nuanced variations that contribute to effective communication. Its complex structure and function allow for a wide range of vocal expressions essential for speech.

2.3 Phonetic Transcription

The International Phonetic Alphabet (IPA) is a standardized system of phonetic notation devised in the late 19th century by the International Phonetic Association, primarily to provide a consistent representation of the sounds of spoken language. Its primary aim is to assign a unique symbol to each distinct sound, or phoneme, across all languages, thus facilitating accurate pronunciation and transcription without the ambiguities inherent in traditional spelling systems. This makes the IPA an invaluable tool for linguists, language teachers, and learners alike, as it allows for precise communication of phonetic details that can vary significantly between dialects and languages.

When it comes to transcribing English sounds, the IPA enables users to capture the nuances of English pronunciation effectively. For instance, it can differentiate between similar sounds that may be represented by different spellings, such as /liːd/ (lead) and /led/ (led), highlighting the importance of sound over spelling in

phonetic transcription. English features approximately 44 distinct phonemes, which can be visually represented using an IPA chart tailored specifically for the language. This chart aids learners in mastering pronunciation by providing a clear reference for how words are articulated, regardless of their written form.

The International Phonetic Alphabet (IPA) serves as a crucial tool for accurately representing the sounds of spoken language, enabling linguists, language teachers, and learners to communicate phonetic nuances effectively. Developed in the late 19th century, the IPA provides a standardized set of symbols, each corresponding to a unique sound or phoneme, which helps eliminate the confusion caused by inconsistent spelling systems across languages. This system is particularly vital for studying phonetics as it allows for precise transcription of sounds, facilitating a deeper understanding of pronunciation and articulation. By utilizing the IPA, learners can improve their pronunciation skills and gain insights into the phonological structures of various languages, making it an indispensable resource in both academic and practical applications of language learning.

The International Phonetic Alphabet (IPA) is an essential tool for improving pronunciation in English and other languages. By providing a consistent representation of sounds, the IPA allows learners to understand how to articulate words accurately, regardless of their written form. For example, the IPA distinguishes between various vowel sounds that may appear similar in spelling but are pronounced differently. Examples of English Sounds in IPA:

- Short Vowels: /ɪ/ as in fit, /æ/ as in pat, /ʌ/ as in cut.
- Long Vowels: /i:/ as in week, /ɔ:/ as in fork, /u:/ as in boot
- Diphthongs: /eɪ/ as in place, /aʊ/ as in mouse, /oʊ/ as in home (in American accent)

By using these IPA symbols, learners can visualize the exact sounds they need to produce, which helps tackle common pronunciation challenges. For instance, many non-native speakers struggle with English diphthongs, often pronouncing them as

single vowels. The IPA provides clarity by showing the required mouth positions, and sound transitions, making it easier for learners to replicate the correct pronunciation.

IPA Improves Pronunciation, which makes its learning and mastery by students very important for their language mastery. It ensures:

1. Clear Sound Representation: The IPA eliminates confusion caused by English spelling, where words like "read" can be pronounced differently depending on context (/riːd/ or /rɛd/). This clarity helps learners' associate sounds with their correct symbols.

2. Focus on Difficult Sounds: IPA training has been shown to significantly improve pronunciation among learners, especially for challenging sounds that may not exist in their native languages. Studies indicate that students trained with IPA demonstrate better articulation of difficult English words compared to those who are not trained.

3. Visual Learning Aid: The layout of the IPA chart provides a visual guide for learners, showing how to position their mouths and tongues for different sounds. This is particularly beneficial for mastering vowel distinctions and stress patterns within words.

4. Cross-Language Application: Understanding the IPA not only aids in learning English but also enhances pronunciation skills in other languages by providing a framework for comparing and contrasting phonetic sounds across different linguistic systems.

The International Phonetic Alphabet is a powerful resource for anyone looking to improve their pronunciation skills, offering precise guidance on how to produce the myriad sounds found in spoken language.

2.4 Vowels vs Consonants

To describe vowels and differentiate them from each other, we can refer to the system of cardinal vowels developed by Daniel Jones. This system provides a clear framework for understanding vowel articulation based on tongue position and lip rounding. Here's a detailed explanation of how vowels are described and differentiated, using the cardinal vowel diagram as a reference.

Describing Vowels requires considering the following key parameters:

1. Height: This refers to how high or low the tongue is in the mouth during the production of a vowel. Vowels can be classified as:

   - Close (High): Tongue is positioned close to the roof of the mouth (e.g., /i/ in "see").

   - Close-Mid: Tongue is slightly lower than close vowels (e.g., /e/ in "say").

   - Open-Mid: Tongue is positioned lower than close-mid vowels (e.g., /ɛ/ in "bed").

   - Open (Low): Tongue is at its lowest position (e.g., /ɑ/ in "father").

2. Blackness/ Frontness: This describes how far forward or back the highest point of the tongue is:

   - Front: Tongue is positioned towards the front of the mouth (e.g., /i/).

   - Central Tongue is positioned in the middle of the mouth (e.g., /ə/).

   - Back Tongue is positioned towards the back of the mouth (e.g., /u/).

3. Lips Position: This refers to whether the lips are rounded or unrounded during vowel production

   - Rounded Lips are rounded (e.g., /u/).

   - Unrounded Lips are spread (e.g., /i/) or neutral as in /ə/.

Cardinal Vowel Diagram

The cardinal vowel diagram, developed by Daniel Jones, serves as a reference for these parameters. It consists of eight primary cardinal vowels arranged in an inverted trapezoid:

Cardinal Vowel 1 [i]: Close front unrounded

Cardinal Vowel 2 [e]: Close-mid front unrounded

Cardinal Vowel 3 [ɛ] Open-mid front unrounded

Cardinal Vowel 4 [a] Open front unrounded

Cardinal Vowel 5 [ɑ] Open back unrounded

Cardinal Vowel 6 [ɔ] Open-mid back rounded

Cardinal Vowel 7 [o] Close-mid back rounded

Cardinal Vowel 8 [u] Close back rounded

VOWELS

	Front	Central	Back
Close	i • y	ɨ • ʉ	ɯ • u
	I Y		ʊ
Close-mid	e • ø	ɘ • ɵ	ɤ • o
		ə	
Open-mid	ɛ • œ	ɜ • ɞ	ʌ • ɔ
	æ	ɐ	
Open	a • ɶ		ɑ • ɒ
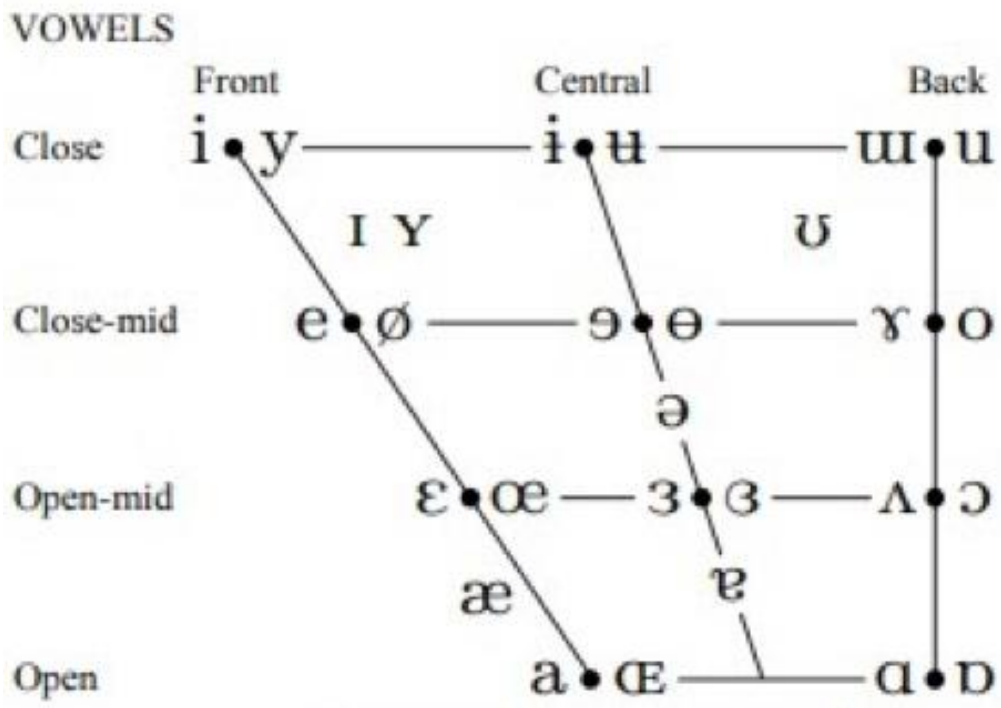
Where symbols appear in pairs, the one
to the right represents a rounded vowel.

Figure 8 : Diagramme of Cardinal Vowels

Vowels are differentiated based on their position along these parameters:

Articulatory Features: The specific height, backness, and rounding of each vowel create distinct acoustic qualities. For example, /i/ is high and front with spread lips, while /u/ is high and back with rounded lips.

Auditory Distinction: The differences in tongue position and lip rounding result in unique sound qualities that can be perceived by listeners. This auditory distinction is crucial for understanding how vowels function in language.

Language Variation: While the cardinal vowels serve as reference points, actual vowel sounds can vary significantly across languages and dialects. Phonetic training helps speakers recognize and produce these variations accurately. This systematic approach allows phoneticians to classify and analyze vowel sounds effectively, facilitating a deeper understanding of phonetics across different languages.

Vowels have some characteristics in common, mainly, they are all the time voiced, that it they are produced with vibration of the vocal cords. They, also, share the fact that there is no stricture or blockage of air during their realization, contrary to consonants that there might be voiced as well as voiceless consonants, and usually they are produced with a stricture at a certain point in the vocal tract.

We can describe a consonant phonetically, by describing its physical properties of a speech sound, as well phonologically, considering its function and distribution in a certain language.

Phonetically, a consonant is defined as a speech sound produced with a complete or partial closure of the vocal tract, which obstructs the airflow. This obstruction can occur at various points in the vocal tract, leading to different types of consonants based on:

- Place of Articulation: The location in the vocal tract where the airflow is constricted. Examples include:

Bilabial: Both lips come together (e.g., /b/, /p/).

Alveolar: The tongue contacts the alveolar ridge (e.g., /t/, /d/, /s/, /z/).

Velar: The back of the tongue approaches the soft palate (e.g., /k/, /g/).

- Manner of Articulation: The way in which the airflow is obstructed. Types include:

Stops: Complete closure followed by a release (e.g., /p/, /t/, /k/).

Fricatives: Narrowing that creates turbulence (e.g., /f/, /s/, /ʃ/).

Approximants: Less constriction that does not create turbulence (e.g., /l/, /r/, /w/).

- Voicing: Whether the vocal cords vibrate during articulation. Voiced consonants (e.g., /b/, /d/) involve vocal fold vibration, while voiceless consonants (e.g., /p/, /t/) do not.

Phonologically, consonants function differently from vowels within syllables and words. They typically serve as:

- Onsets: Consonants that appear at the beginning of syllables (e.g., in "cat," /k/ is the onset).
- Codas: Consonants that appear at the end of syllables (e.g., in "cat," /t/ is the coda).

In contrast to vowels, which usually serve as syllable nuclei (the core of a syllable), consonants contribute to the structure and organization of syllables.

This distinction is crucial for understanding phonetics and phonology, as it influences how sounds function within language. Consonants and vowels work together to create meaningful speech, with each playing unique roles in syllable structure and sound patterns.

2.5 Activities

Answer the following questions.

1. What are the primary speech organs involved in articulation, and what roles do they play?
2. Describe the structure of the larynx and its function in voice production.
3. What is voicing, and how does it affect speech sounds?
4. How does the International Phonetic Alphabet (IPA) aid in studying phonetics?
5. What are common voicing contrasts in English, and how are they represented in IPA?
6. Explain how different parts of the tongue contribute to articulation.

Answers:

The answers below are given to the above cited questions, respectively.

Answer1: The primary speech organs involved in articulation include:

- Lips: Used for bilabial sounds (e.g., /p/, /b/) and labiodental sounds (e.g., /f/, /v/).

- Teeth: Important for dental sounds (e.g., /θ/ as in "think" and /ð/ as in "this").

- Alveolar Ridge: Located just behind the upper front teeth; used for alveolar sounds (e.g., /t/, /d/, /s/, /z/).

- Hard Palate: The bony part of the roof of the mouth; involved in palatal sounds (e.g., /ʃ/ as in "sh" and /ʒ/ as in "measure").

- Soft Palate (Velum): Used for velar sounds (e.g., /k/, /g/, /ŋ/). It can be raised to block airflow to create nasal sounds.

- Tongue: The most flexible articulator, divided into parts such as the tip, blade, body, and root. It is crucial for producing various sounds based on its position (e.g., /l/ is produced with the tongue tip against the alveolar ridge).

Answer:2 The larynx is composed of several cartilages, including the thyroid, cricoid, and arytenoid cartilages. It contains the vocal folds, which are essential for sound production. The key functions include:

- Sound Generation: When air from the lungs passes through the closed vocal folds, they vibrate to produce sound.

- Pitch Control: The tension and length of the vocal folds can be adjusted by intrinsic laryngeal muscles to change pitch.

- Protection of Airways: The larynx acts as a valve that prevents food and liquids from entering the trachea during swallowing.

Answer:3 Voicing refers to whether or not the vocal folds vibrate during the production of a consonant sound.

- Voiced Sounds: Produced with vibration of the vocal folds (e.g., /b/, /d/, /g/).
- Voiceless Sounds: Produced without vocal fold vibration (e.g., /p/, /t/, /k/).
- The presence or absence of voicing can change the meaning of words; for example, "bat" (/bæt/) vs. "pat" (/pæt/).

Answer:4 The IPA is a standardized system that represents each distinct sound (phoneme) with a unique symbol. Its role includes:

- Precision: Provides an accurate representation of sounds across different languages and dialects.
- Clarity: Eliminates ambiguity in pronunciation by providing a consistent visual representation of phonetic sounds.
- Learning Tool: Helps linguists, language learners, and speech therapists understand and transcribe speech sounds systematically.

Answer:5 Common voicing contrasts in English include pairs such as:

- /b/ vs. /p/: Voiced bilabial stop vs. voiceless bilabial stop
- /d/ vs. /t/: Voiced alveolar stop vs. voiceless alveolar stop
- /g/ vs. /k/: Voiced velar stop vs. voiceless velar stop
- /v/ vs. /f/: Voiced labiodental fricative vs. voiceless labiodental fricative

In each case, the voiced sound has vibration during articulation while its voiceless counterpart does not.

Answer6: Different parts of the tongue contribute to articulation based on their position:

- Tip: Used for producing alveolar sounds like /t/, /d/, and lateral approximants like /l/.
- Blade: Engages with the alveolar ridge for sounds like /ʃ/ and /ʒ/.
- Body: Involved in producing back vowels (e.g., /u:/) and velar sounds (e.g., /k/, /g/) when raised towards the soft palate.
- Root: Plays a role in pharyngeal sounds found in some languages but not typically in English.

3. The Sound System of English

The sound system of English is a complex framework that encompasses the various sounds produced in the language, which can be broadly categorized into consonants and vowels. Understanding this system is essential for students of English as a Foreign Language (EFL) as it aids in pronunciation, listening comprehension, and overall language proficiency.

- Consonants

English contains approximately 30 consonant sounds, which can be classified based on their voicing, place of articulation, and manner of articulation. Voicing refers to whether the vocal cords vibrate during the production of a sound; consonants can be either voiced (e.g., /b/, /d/, /g/) or voiceless (e.g., /p/, /t/, /k/). The place of articulation indicates where in the vocal tract the airflow is constricted, such as bilabial (both lips), alveolar (tongue against the alveolar ridge), or velar (back of the tongue against the soft palate). The manner of articulation describes how the sound is produced, including categories like stops (complete closure), fricatives (narrowing to create turbulence), and nasals (air flowing through the nasal cavity).

- Vowels

The vowel system in English is characterized by around 20 distinct vowel sounds, which can be classified into short, long, and diphthongs. Vowels are produced with an open vocal tract and are categorized based on their position in the mouth (height and backness) and whether they are tense or lax. For instance, the vowel in "beat" (/iː/) is a tense high front vowel, while the vowel in "bit" (/ɪ/) is a lax high front vowel. Diphthongs, such as /aɪ/ in "my," involve a glide from one vowel sound to another within the same syllable.

The sound system of English can be represented using the International Phonetic Alphabet (IPA), which provides a standardized notation for each sound. This

representation allows for precise communication about pronunciation across different dialects and accents. For example, the words "cat" and "bat" can be transcribed as /kæt/ and /bæt/, respectively, highlighting their phonemic distinction.

The sound system of English consists of a rich array of consonants and vowels that interact according to specific phonological rules. Mastery of this system is vital for effective communication and comprehension in English, making it a central focus for EFL students.

3.1 - Vowels: Classification and Articulation

Vowels are a critical component of the sound system in English, characterized by their unique articulatory properties. Daniel Jones, a prominent British phonetician, developed a systematic approach to classifying vowels through his Cardinal Vowel Diagramme, which provides a visual representation of vowel articulation based on tongue position and lip rounding. This diagram is instrumental for understanding how different vowel sounds are produced and perceived.

English Vowel System

close, back, rounded: *too* /tuː/

half-close, back, rounded: *put* /pʊt/

half-close to half-open, central, rounded: *another* /əˈnʌðə/

half-close to half-open, central, rounded: *bird* /bɜːd/

half-open, back, rounded: *saw* /sɔː/

half-close, central, unrounded *another* /əˈnʌðə/

open, central to back, neutral lip rounding: *car* /kɑː/
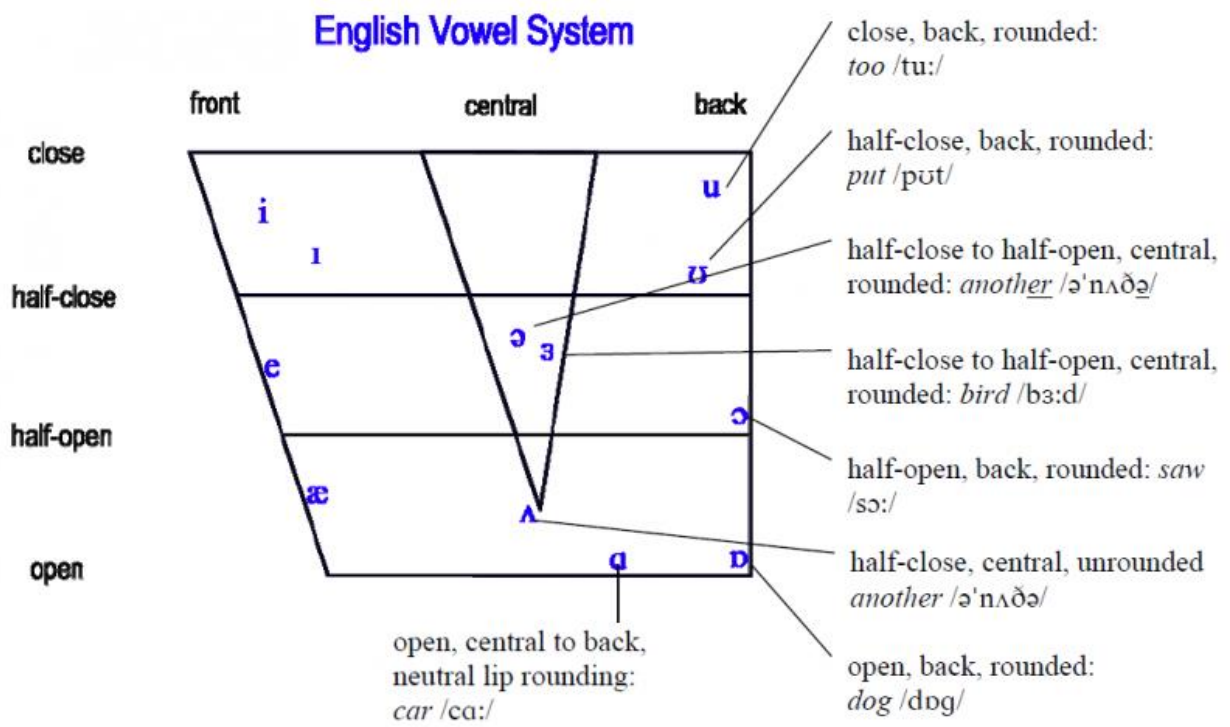
open, back, rounded: *dog* /dɒg/

Figure 9: Short and Long Vowels Classification in Daniel Jones' Diagram

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Understanding Jones' classification and articulation of vowels is particularly beneficial for students learning English as a Foreign Language (EFL). By familiarizing themselves with this systematic approach, learners can improve their pronunciation and listening skills, enabling them to differentiate between similar sounds that may alter meaning in English. The use of Jones' Cardinal Vowel Diagram serves as an effective tool for visualizing and practicing these distinctions, ultimately enhancing overall language competency. The diagramme above displays the tongue position for all of short and long vowels in English that are referred to as monophthongs. Details and description are mentioned below

3.1.1 short vowels

Short vowels are pronounced with a brief duration and do not have the extended sound that characterizes long vowels. For example, the short vowel sound in hit (/hɪt/) is distinctly shorter than the long vowel sound in heat (/hiːt/). Additionally, the difference is not merely at the level of length but includes rather the quality, i.e. the openness, closeness, and frontness and backness as shown in the diagramme in Figure 9. In the International Phonetic Alphabet (IPA), short vowels are represented by single symbols, indicating that they are produced with one mouth position. There are 7 English short vowels as represented below listed from the front vowels, to the back one.

- **/ɪ/** in a word like in the word "hit", "sit", and "bit" is a close, front vowel with lips slightly spread. If we compare it to the cardinal vowel i, it is more open and nearer to the centre.
- **/e/** like in the words bet, men, yes and ten. This is a front vowel between the cardinal vowel /**e**/ & /**ɜ**/. The lips are slightly spread /**e**/ is between mid-close and mid-open.
- **/æ/** like in the words: bat, man, and fat. This is a front vowel. It is open. The lips are slightly spread.

- /ə/ named in literature as schwa. It is a central vowel. It is between mid-close and mid-open in the tongue height. The lips are neutral. It is described as a lax vowel, and very common in English.

- /ʌ/ like in the words: but, sum, son, and trust. This is a central vowel. It is between mid-open & open. The lip position is neutral.

- /ɒ/ Example words: come, cross, lot. This is a back vowel and between mid-open and open in tongue height. The lips are slightly rounded. This is the description of short 'o' in the Received Pronunciation (RP). In General American (GA), it is often realized as more open and more back as in long /aː/.

- /ʊ/ Example words: put, foot, push. The nearest cardinal vowel is [u], but it can be seen that is more open and nearest to central. The lips are rounded.

The list below exposes the English long vowels in the category of monophthongs.

3.1.2 Long Vowels

They are characterized by the fact that they take a longer time of establishment in comparison to short vowels. As we described short English vowels, we display long vowels respecting the order from the most front close vowels, to the most back open vowel.

- /iː/ this vowel is closer and more front than the short /ɪ/. The lips are only spread. It is the closest and the most front vowel in English, and the nearest to the cardinal i

- /ɜː/ Example words: bird, girl, third, and heard. This is a central vowel. It is between mid-close and mid-open (but nearest to a mid-open). The lip position is neutral.

- /uː/ Example words: food, soon, loose…A back vowel. It is close. The lips are moderately rounded.

- /ɔː/ Example words: board, horse and thought. This is a back vowel. It is between mid-close and mid-open. The lips are rounded.

- /ɑː/ Example words: card, half, and chart. This is an open vowel in the region of cardinal vowel [ɑ], but not as back as this. The lip position is neutral.

These are the five English long vowels in the category of monophthongs. Below, we will expose the diphthongs

3.1.3 Diphthongs

A diphthong is a complex vowel sound that begins with one vowel sound and glides into another within the same syllable. The term originates from the Greek words "di," meaning "two," and "phthongos," meaning "sound," indicating that it involves two distinct vowel sounds. They might be referred to as glides in some references. Characteristics of Diphthongs are the fact that their articulation involves a smooth transition between two vowel sounds. For instance, in the word 'house', the vowel sound /aʊ/ starts at the position for /a/ and moves towards /ʊ/. They are said to have a Monosyllabic Nature; unlike combinations of vowels that create separate syllables (known as hiatus), diphthongs occur within a single syllable. For example, in the word 'coin', the sound /ɔɪ/ represents a diphthong as it merges two vowel sounds into one syllable. Diphthongs in English are 8, 3 centering and 5 closing.

- Centering Diphthongs: the diphthongs ending in /ə/ are called centering diphthong as they glide toward the /ə/ as the symbols indicate. There are three in English. We provide examples for each and show the glides in the diagramme below.
- /ɪə/ like in ear, clear and dear. The starting point is a little closer than /ɪ/ in "bit".
- /eə/ like in ear, hair, there. This diphthong begins with the same vowel sound as /e/ of "get", "ten"

- /ʊə/ Example words pure, and cure. This is a starting point slightly closer than ʊ in "put".
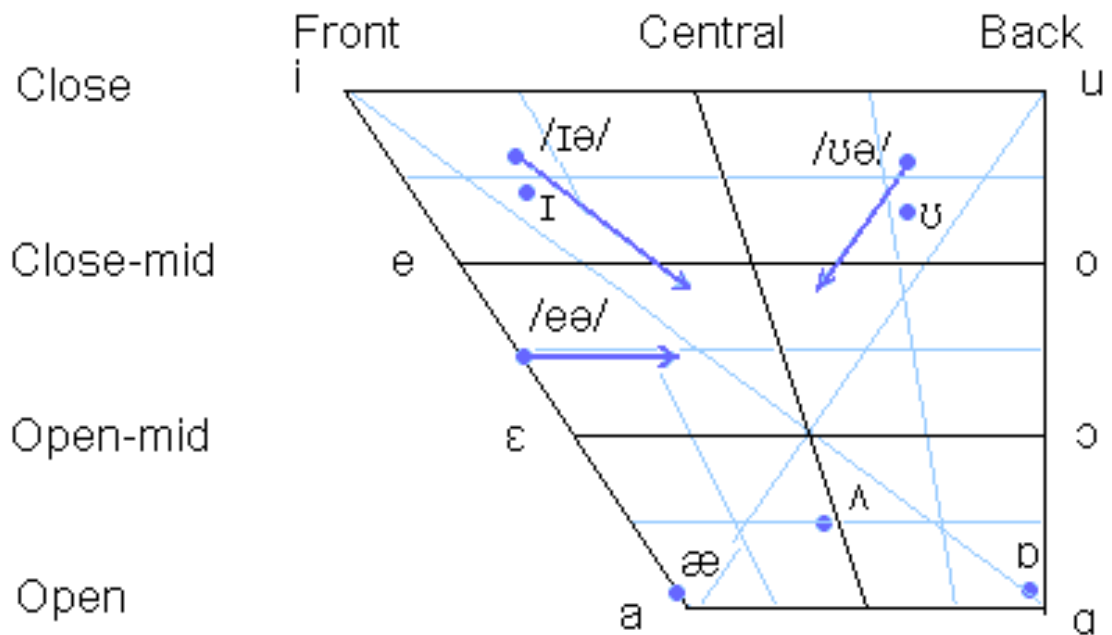
English centring diphthongs - p.020-021
and checked vowels

UKT: The original book gives three different diagrams which I have combined into one. The English centring diphthongs indicated are: /ɪə/ , /eə/ , /ʊə/ . It is noted that in Roache's diagrams /ɪ/ on p.014 is lower than that shown on p.020. We find a similar case for /ʊ/ .

Figure10 : Centering Diphthongs in English

[9] Quoted in https://www.tuninst.net/ENG-PHON/Eng-diphth/diphth.htm

- Closing Diphthongs: closing diphthongs have the characteristic that they all end with a glide towards a closer vowel. The second part of the diphthong is weak; they often do not reach a position that could be called close. The important thing is that a glide from a relatively more open to a relatively closer vowel is produced. Three of the diphthongs glide toward /ɪ/, as described below:

  - /eɪ/ pay, may… The starting point is the same as the vowel in ten.
  - /aɪ/ Example words: mine, time, rice. This diphthong begins with an open vowel which is between front and back.
  - /ɔɪ/ like in the words: boy, toy…The first part of this diphthong has the same quality as/ ɔ:/ of born

English closing diphthongs ending in /ɪ/ - p.021-022
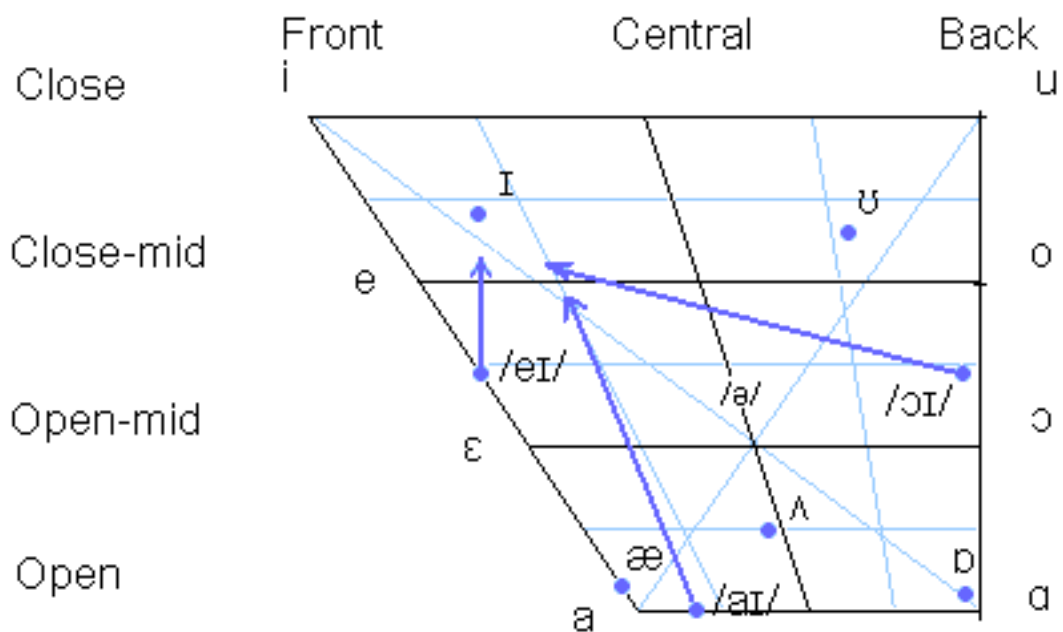English short vowels - or checked vowels. p.014-015

UKT: The original book gives three different diagrams which I have combined into one. The English closing diphthongs ending in /ɪ/ are:
/eɪ/ , /aɪ/ , /ɔɪ/ .

_10

Figure11 : Closing Diphthongs in English ending with I

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10 Quoted in https://www.tuninst.net/ENG-PHON/Eng-diphth/diphth.htm

Two of the closing diphthongs glide toward /ʊ/: the tongue moves closer of the roof of the mouth there is at the same time a rounding movement of the lips. This movement is not a large one, again because the second part of the diphthong is weak. Below we expose these two glides and illustrate them within the diagramme.

- **/əʊ/** Example words are no, home, most. The initial vowel is schwa. The lips may be slightly rounded in anticipation of the glide towards /ʊ/ for which is a noticeable lip-rounding. Note that this vowel realization is typical to RP. GA accent is distinguished by beginning by the round vowel o, instead of the schwa.

- **/aʊ/** Example words: loud, house, now. This diphthong begins with a vowel similar to /ɑ:/. This is an open vowel similar to /ʊ/ but the glide is not completed (the end of the diphthong being somewhere between close-mid and open-mid in tongue height). There is only slight lip rounding.
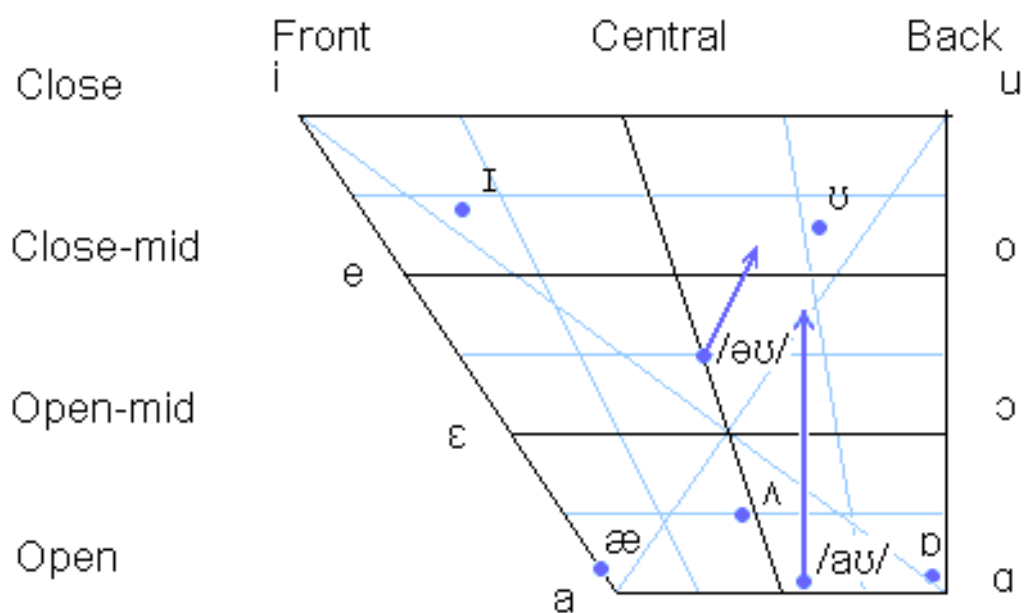
English closing diphthongs ending in /ʊ/- p.022

English short vowels - or checked vowels. p.014-015

UKT: Roach gave two different diagrams which I have combined into
one. The English closing diphthongs ending in /ʊ/ are: /əʊ/ and /aʊ/.
Refer back to /aɪ/ and compare it to /aʊ/ and you will see that the
starting point /a/ are quite different.

_[11]

Figure12: Closing Diphthongs in English ending with
schwa

[11] Quoted in https://www.tuninst.net/ENG-PHON/Eng-diphth/diphth.htm

3.1.4 Triphthongs

As their name implies, tri mrans, they involve three vowels in their realization. A triphthong is a glide from one vowel to another and then to the third, all produced rapidly and without interruption. For example: The word "our" begin with a vowel quality similar to /ɑ/ goes on to a glide towards the back close rounded area (for which we use the symbol /ʊ/), then it ends with a mid-central vowel schwa /ə/, giving as a result a vowel made up of three stations for the tongue, and making two successive glides.

The triphthongs can be looked as being composed of the five closing diphthongs already described above, with a [ə] added at the end. Consequently, the following five triphthongs are part of the English phonemic system.

- eɪ + ə = eɪə like in player, layer
- ɑɪ + ə = ɑɪə like in fire, desire
- ɔɪ + ə = ɔɪə like in loyal
- əʊ + ə = əʊə like in slower
- ɑʊ + ə = ɑʊə like in flower, shower

Most students taught in Tlemcen university encounter difficulties in vowels recognition and distinction, because of the difference between their mother tongue and the phonemic system of English. Consequently, it is advised to devote much effort and time to work on them. On the other hand, consonants in English are easily distinguishable and a serious concentration on them enables students to master their realizations.

3.2 Consonants: Types and Articulation

Consonants are speech sounds produced with a complete or partial closure of the vocal tract, resulting in various types of sounds that play a crucial role in the

phonetic structure of English. There are 24 consonant sounds in English, classified based on their voicing, place of articulation, and manner of articulation. This section will detail these classifications and provide examples of each type.

Classification of Consonants is based upon the following:

- Voicing: Consonants can be either voiced or voiceless. Voiced Consonants: The vocal cords vibrate during the articulation (e.g., /b/, /d/, /g/). Voiceless Consonants: The vocal cords do not vibrate (e.g., /p/, /t/, /k/).

- Place of Articulation: This refers to where in the vocal tract the airflow is obstructed. The primary places of articulation in English consonants include:

    - Bilabial: Both lips come together (e.g., /p/, /b/, /m/).
    - Labiodental: The lower lip contacts the upper teeth (e.g., /f/, /v/).
    - Dental: The tongue contacts the upper teeth (e.g., /θ/ as in "think", /ð/ as in "this").
    - Alveolar: The tongue contacts the alveolar ridge just behind the upper front teeth (e.g., /t/, /d/, /s/, /z/, /n/).
    - Postalveolar: The constriction occurs just behind the alveolar ridge (e.g., /ʃ/ as in "ship", /ʒ/ as in "measure", /tʃ/ as in "chop", /dʒ/ as in "judge").
    - Palatal: The body of the tongue is raised against the hard palate (e.g., /j/ as in "yes").
    - Velar: The back of the tongue contacts the soft palate (e.g., /k/, /g/, /ŋ/ as in "sing").
    - Glottal: The sound is produced at the glottis (e.g., /h/ as in "hat").

- Manner of Articulation: This describes how the airflow is restricted. The main manners include:

    - Stops (Plosives): Complete closure followed by a release of air (e.g., /p/, /b/, /t/, /d/, /k/, /g/).

➤ Fricatives: Narrowing of the vocal tract creates turbulent airflow (e.g., /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/).

➤ Affricates: A combination of a stop followed by a fricative (e.g., /tʃ/ as in "church", /dʒ/ as in "judge").

➤ Nasals: Air flows through the nasal cavity due to lowered velum (e.g., /m/, /n/, /ŋ/).

➤ Liquids: Consonants that allow air to flow around them, typically produced with some constriction but not enough to cause turbulence (e.g., /l/, /r/).

➤ Approximants: Similar to liquids but with even less constriction, allowing for a more vowel-like quality (e.g., /w/, and sometimes considered semi-vowels like [j]).

The following table summarizes all 24 English consonant sounds, categorized by their place and manner of articulation: Understanding the types and articulation of consonants is essential for mastering English phonetics. By recognizing how consonants are classified based on voicing, place, and manner of articulation, students can improve their pronunciation and comprehension skills. This knowledge not only aids language learning but also enhances communication effectiveness across various contexts.

	Bilabial	Labiodental	Dental	Alveolar	Alveopalatal	Palatal	Velar	Glottal
Stop	p b			t d			k g	ʔ
Fricative		f v	θ ð	s z	ʃ ʒ			h
Affricate					tʃ dʒ			
Nasal	m			n			ŋ	
Liquid				l, ɹ				
Glide	(w)					j	(w)	

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Figure 13: Table of English Consonants Classification

12 https://www.pinterest.com/pin/544794886155415461/

After displaying all English consonants in the table above, we will approach them at a narrower scale for a better mastery of their production and perception.

3.2.1 Plosives

Plosives, also known as stops, are consonant sounds produced by completely blocking the airflow in the vocal tract and then releasing it, creating a burst of sound. In English, there are six primary plosive phonemes: /p/, /b/, /t/, /d/, /k/, and /g/. The voiceless plosives (/p/, /t/, /k/) are produced without vocal cord vibration, while the voiced plosives (/b/, /d/, /g/) involve vibration of the vocal cords. The articulation of plosives consists of three main phases:

➢ Closure: The active and passive articulators come together to form a complete obstruction to airflow.

➢ Compression: Air builds up behind the closure.

➢ Release: The articulators move apart, allowing the compressed air to escape explosively, resulting in a burst of sound.

Plosives can be categorized based on their place of articulation

- Bilabial: [p] and [b] (both lips) like in park and bark, respectively.

- Alveolar [t] and [d] (tongue against the alveolar ridge) like in time and dive, respectively.

- Velar: [k] and [g] (back of the tongue against the soft palate) like in calm, and gun, respectively.

Plosives realization is associated with a phenomenon known as aspiration. It occurs when a voiceless plosive is released with a burst of air, typically characterized by a brief period of silence followed by a strong puff of air. In English, aspiration is most commonly observed in word-initial stressed positions preceding a vowel, such as in "pin" [pʰɪn] versus "spin" [spɪn]. In transcription, we show it in narrow phonetic transcription using a small diacritic in the form of small h written on the above right side of the voiceless plosives.

Aspiration is realized primarily in Voiceless plosives like /p/, /t/, and /k/ when they occur at the beginning of a stressed syllable. If preceded by an /s/ (as in "spit"), or followed by a consonant, voiceless plosives are typically un aspirated. Note that voiceless sounds are referred to as Fortis, since they are produced with much energy, while voiced sounds are described as lenis.

Lenis plosives (/b/, /d/, /g/) can become devoiced in specific phonetic environments, particularly when they occur at the end of an utterance or before voiceless consonants. This phenomenon is known as "devoicing," where voiced sounds lose their vocal cord vibration; they are produced as voiceless sounds. For example, the final sound in "bad" may be pronounced closer to [bæt] when spoken quickly or casually. The diacritic of IPA to indicate devoicing is the use of a small circle drawn under the devoiced phoneme.

Understanding plosives involve recognizing their articulation phases, the phenomenon of aspiration, and conditions under which lenis plosives may be devoiced. Their distinguished non continuant nature contrasts with the remaining English phonemes, namely fricatives, and a perfect mastery of English pronunciation dictates the fact that phonemes should be delicately mastered by EFL students.

3.2.2 Fricatives

Fricatives are consonant sounds produced by forcing air through a narrow channel formed by the close approximation of two articulators, which creates turbulence or friction in the airflow. Unlike stops or plosives, fricatives do not completely block the airflow; instead, they allow it to escape continuously, resulting in a characteristic hissing or buzzing sound. This manner of articulation is crucial for distinguishing fricatives from other types of consonants.

In English, there are nine primary fricative phonemes, which can be categorized based on their voicing (voiced or voiceless) and place of articulation:

- [f]   Voiceless Labiodental like in fan
- [v]   Voiced   Labiodental such as van
- [θ]   Voiceless Dental   like in think
- [ð]   Voiced   Dental such as in this
- [s]   Voiceless Alveolar   like in sun
- [z]   Voiced   Alveolar   such as in zoo
- [ʃ]   Voiceless Palatal   like in ship
- [ʒ]   Voiced Palatal   eg.   measure
- [h]   Voiceless Glottal   eg.   hat

The sounds /v/, /ð/, /z/, and /ʒ/ are produced with vibration of the vocal cords. For example: /v/: as in "van", /ð/: as in "this", /z/: as in "zoo", and /ʒ/: as in "measure". However, they lose their vibration, and become devoiced in final position, as we have seen for lenis plosives. Practically, mainly in casual speech, voiced fricatives can become devoiced when they occur at the end of an utterance or before voiceless consonants (e.g., "have" might sound like [hæv̥]).

Contrary to stops, fricatives are characterized by their turbulent airflow due to partial obstruction, and they can vary in realization based on voicing and surrounding phonetic contexts. When associated with a stop, in certain circumstances discussed below, they can form a hybrid sound know in phonetics as affricate.

3.2.3 Affricates

Affricates are complex consonant sounds that begin as a stop (a complete closure of the vocal tract) and are immediately followed by a fricative (a sound produced with a continuous airflow through a narrow constriction). This combination creates a unique sound that is distinct from simple sequences of stops and fricatives. In English, the two primary affricates are [t͡ʃ] (voiceless), and [d͡ʒ] (voiced).

Affricates in English: in English, there is a pair of affricates, of a fortis and a lenis sound. Voiceless Affricate [t͡ʃ] is the fortis one, Example: "ch" in "church" [t͡ʃɜːtʃ]. It begins with the tongue against the alveolar ridge (like /t/) and transitions into a fricative sound produced further back in the mouth. On the other hand, the voiced affricate [d͡ʒ] as in "judge" [d͡ʒʌdʒ]; similar to the voiceless affricate but involves vocal cord vibration during the fricative phase.

Characteristics of Affricates involve:

- Place of Articulation: Both affricates in English are post alveolar, meaning they are articulated just behind the alveolar ridge.
- The voicing of the stop and fricative components must match; if one is voiced, the other must also be voiced.
- Affricates can exhibit slight variations depending on their phonetic context. For example: In rapid speech, the distinction between [t͡ʃ] and [d͡ʒ] may become less pronounced, leading to a more relaxed articulation.
- When affricates appear at the end of words or before voiceless consonants, they may be realized as less voiced. For instance, in casual speech, the voiced affricate [d͡ʒ] may be pronounced closer to its voiceless counterpart [t͡ʃ], particularly in phrases like "judge" when followed by a voiceless sound. The word "badge" may be pronounced with less vocal cord vibration at the end, sounding closer to [bædʒ̥].
- In connected speech, "did you" can sometimes be pronounced as [dɪdʒu], where the /d/ may lose some voicing due to rapid articulation.

Affricates in English consist of two primary phonemes that combine features of stops and fricatives. Their realization can vary based on phonetic context, and devoicing can occur under specific conditions, affecting how these sounds are perceived in natural speech.

3.2.4 Nasals

Nasal consonants in English are a specific type of consonant produced with the velum lowered, allowing air to escape through the nose while airflow through the mouth is blocked. This results in a sound that is typically voiced. The primary nasal consonants in English are /m/, /n/, and /ŋ/, which correspond to the phonetic symbols [m], [n], and [ŋ], respectively. Note that nasals are all voiced consonants, i. e. they are produced with vibration vocal cords, and with lowered velum.

/m/ is the Bilabial Nasal. It is produced by bringing both lips together. Examples 'mom' [mɒm], 'drum' [dɹʌm]

/n/ is the Alveolar Nasal. It is produced with the tongue against the alveolar ridge; just behind the upper front teeth. Examples: 'nun' [nʌn] and 'nine' [naɪn].

/ŋ/ is the Velar Nasal. It is produced with the back of the tongue against the soft palate (velum). Like in 'sing [sɪŋ], and 'ring' [ɹɪŋ]. It occurs when followed by a velar plosive; k or g. K is always pronounced when being after / ŋ/, while g the pronunciation of /g/ after /ŋ/ depends on specific phonological rules and word structures.

 In medial position; when /ŋ/ occurs before a voiced velar stop /g/, such as in words like; finger [ˈfɪŋgə], or anger [ˈæŋgə], in these cases, the /ŋ/ can assimilate to become [ŋg], producing a clear /g/ sound, because the two sounds belong to the same morpheme. In comparative and superlative Forms; in adjectives where /ŋ/ appears at the end of a root word followed by a comparative or superlative suffix, such as: 'young' → 'younger', 'long' → 'longer', here, the /ŋ/ is pronounced as [ŋg] due to morphological rules. However, /g/ is not pronounced in final position or when followed by voiceless consonants, such as: 'song' [sɔŋ] and wrong [rɔŋ]. The /ng/ spelling represents only the nasal sound without any following /g/. Word structure also affects g realization, when n and g are part of different morphemes. If /ng/ appears at the end of a word or before another consonant that does not trigger

assimilation (like in hang), it remains as [ŋ] without a following /g/. For example: singing [ˈsɪŋɪŋ].

3.2.5 Liquids

Liquid sounds in phonetics are a class of consonants characterized by a smooth, flowing quality, produced with relatively open airflow in the vocal tract. In English, the primary liquid sounds are /l/ (lateral) and /r/ (rhotic). These are consonants that allow for a continuous airflow without creating turbulence. They are produced with a partial closure in the vocal tract, which results in a resonant, vowel-like sound. The term "liquid" indicates the fluidity of these sounds as they can easily blend with surrounding vowels and consonants.

Liquids can function as syllable nuclei, meaning they can act like vowels in certain contexts. For instance, in words like 'bottle' [ˈbɒtəl], the /l/ can serve as the syllable peak. The pronunciation of liquids can vary significantly among different English dialects, influencing their acoustic properties and how they interact with surrounding sounds.

Lateral consonants, specifically referred to as lateral approximants, are produced by allowing airflow to escape around the sides of the tongue while the center of the tongue makes contact with the roof of the mouth. In English, the primary lateral consonant is /l/. This sound is characterized by its frictionless quality and vowel-like properties, making it distinct from other consonants. The air flows along the sides of the tongue rather than down the middle, creating a unique sound profile that is crucial in various phonetic contexts.

In English, the lateral /l/ can be realized as either a clear /l/ or a dark /l/, depending on its position within a word and its phonetic context. Clear L [l] is produced with the tip of the tongue raised against the alveolar ridge (the bony ridge behind the upper front teeth). This sound is typically more fronted and has a brighter quality. The clear /l/ occurs at the beginning of syllables: For example, in words like "light" [laɪt] and "love" [lʌv]. Before vowels: As in "leaf" [lif] and "long" [lɔŋ].

The dark /l/, on the other hand, involves a retracted tongue position, where the back of the tongue is raised towards the velum (the soft part of the roof of the mouth). This sound has a more muted or heavier quality. The dark /l/ typically occurs at the end of syllables or before consonants: For instance, in words like "pool" [puːɫ], "milk" [mɪɫk], and "full" [fʊɫ]. It also occurs before another consonant, as seen in "build" [bɪɫd] and "salt" [sɔːlt]. note the diacritic added on l in IPA to indicate dark L in narrow phonetic transcription.

The distinction between clear and dark /l/ is not merely phonetic but also functional within English pronunciation. The choice between these two realizations depends primarily on their syllabic position: Clear /l/ is realized at the beginning of syllables or before vowels, while Dark /l/ occurs at the end of syllables or before consonants. Understanding this distinction helps in mastering English pronunciation and contributes to clearer communication.

The /r/ sound is produced by curling the tongue back towards the roof of the mouth (retroflex) or by approximating it without making contact (as in some dialects). This makes it a 'rhotic' sound.Examples: Initial position: 'red' [red], Medial position: 'farmer' [ˈfɑrmər], and Final position 'car' [kɑːr] (often pronounced with a rhotic quality).

The realization of the /r/ sound in English, on the other hand, varies significantly between rhotic and non-rhotic accents, influencing how this consonant is pronounced in different contexts. In rhotic accents, the /r/ sound is pronounced in all positions, including:Word-initial as in "red" [red], Postvocalic; when /r/ follows a vowel, as in "car" [kɑːr] or "butter" [ˈbʌtər], and in word-final; in phrases like "far away" where the /r/ is pronounced when followed by a vowel in the next word (linking R). Examples of rhotic accents include most American English accents (e.g., General American), accents from parts of Canada, and some regional British accents, such as those from the West Country and parts of Lancashire.

In parallel, in non-rhotic accents, the /r/ sound is typically not pronounced in certain contexts, mainly in postvocalic environments, where the /r/ is dropped when it follows a vowel and is not followed by another vowel. For example: "car" is pronounced as [kɑː] (the /r/ is absent), similarly; "mother" becomes [ˈmʌðə].In word-final positions, 'r' at the end of a word is also not pronounced, as in "butter," which sounds like [ˈbʌtə]. Non-rhotic accents are common in most British English accents, particularly Received Pronunciation (RP), accents from Australia, New Zealand, and South Africa.

Despite being non-rhotic, speakers may use linking or intrusive /r/. Linking R is pronouncing the /r/ when a word ending in /r/ is followed by a word beginning with a vowel (e.g., 'far away' is realized as [faːr əw eɪ] even in non rhotic accents. Intrusive R is about inserting an /r/ sound between two vowels where no /r/ exists in spelling (e.g., "idea" may be pronounced as [aɪˈdɪərə] in the utterance the 'idea of', a similar example is in "law and order" might be pronounced as [lɔːr ənd ˈɔːdə]).

The realization of the /r/ sound varies widely across English accents. Rhotic accents maintain the pronunciation of /r/ in all contexts, while non-rhotic accents drop it in specific phonetic environments, leading to distinct differences in speech patterns.

/l/ and /r/ are often devoiced when following a voiceless plosive, eg."play" [pleɪ], try [treɪ]. One can encounter a friction sound appearing in between.

/l/ and /r/ are often described as both approximants and liquids. The distinction lies in the broader category of approximants, which includes various types of sounds, while liquids specifically refer to the lateral and rhotic approximants. Therefore, both classifications are valid depending on the level of specificity desired in phonetic analysis and the theoretical reference you are adopting. As far as the present document is concerned, we have chosen to distinguish them from approximants to reach a sharper description of the English phonemes.

3.2.6 Approximants

Approximants are consonant sounds produced by narrowing the vocal tract without creating turbulent airflow. This means that the articulators; (such as the tongue, lips, or palate) come close to each other but do not touch, allowing air to flow smoothly. As a result, approximants share characteristics with both consonants and vowels, often sounding vowel-like. In English, the primary approximants are /w/, and /j/.

Labio-Velar Approximant /w/. Example: "w" in "wet" [wet]. The lips are rounded while the back of the tongue is raised towards the soft palate.

Palatal Approximant /j/. Example: "y" in "yes" [jes]. The body of the tongue approaches the hard palate without making contact.

Characteristics of Approximants are:

- Voicing: All English approximants are voiced, meaning that vocal cord vibration occurs during their production.
- Vowel-like Quality: phonetically speaking, their physical production is similar to that of vowels, where there is no real obstruction in the vocal tract during their realization.
- Consonantal Distribution: dispite their vowel like phonetic nature, they are considered as consonants, phonologically, since they have a consonantal distribution in English; after them there is a vowel and not a consonant.
- While approximants are generally voiced, they can undergo devoicing when they follow voiceless stops. For instance, in clusters like /kw/ (as in "quick") or /tw/ (as in "twin"), the approximant may begin as voiceless due to the influence of the preceding voiceless stop. This results in a transitional sound where voicing starts after a brief period of silence. Examples of Devoicing

are present in words like "twin" [twɪn], the /w/ may initially lack vocal cord vibration immediately after the voiceless stops /p/ and /t/.

3.3 Activities

- Questions

1. In the words "cat," "seat," and "book," identify the vowel sounds and classify them as short or long. What phonetic symbols represent these sounds?

2. Provide examples of one diphthong and one monophthong in English. How do you distinguish between the two in terms of articulation?

3. Create a minimal pair using two words that differ only by one vowel sound (e.g., "bit" vs. "bet"). Explain how this demonstrates the phonemic nature of vowels.

4. Identify three pairs of consonants in English that differ only by voicing (e.g., /p/ vs. /b/). What articulatory features distinguish these pairs?

5. Classify the following consonants based on their place and manner of articulation: /t/, /ʃ/, /m/, /k/, /v/.

6.What is aspiration in relation to voiceless plosives? Provide examples of aspirated and unaspirated sounds in English.

- Answers

1. Vowel Sounds

    - "cat" - /æ/ (short)

    - "seat" - /iː/ (long)

    - "book" - /ʊ/ (short)

2. Diphthongs vs. Monophthongs

- Diphthong example: /aɪ/ (as in "my")

- Monophthong example: /ɛ/ (as in "bed")

- Diphthongs involve a glide from one vowel sound to another, while monophthongs have a single, unchanging sound quality.

3. Minimal Pairs

    - Example: "ship" vs. "sheep" (/ɪ/ vs. /iː/). This demonstrates that changing the vowel sound changes the meaning, indicating that vowels are phonemic.

4. Voicing Distinction

 Pairs:

    - /p/ (voiceless) vs. /b/ (voiced)

    - /t/ (voiceless) vs. /d/ (voiced)

    - /k/ (voiceless) vs. /g/ (voiced)

The distinction is based on whether the vocal cords vibrate during articulation.

5. Articulatory Classification

    - /t/: alveolar plosive

    - /ʃ/: postalveolar fricative

    - /m/: bilabial nasal

    - /k/: velar plosive

    - /v/: labiodental fricative

6. Aspiration

Aspiration refers to a burst of breath that follows voiceless plosives like /p/, /t/, and /k/.

- Aspirated example: [pʰ] in "pat"

4. Sample Exams

4.1 Sample Exam1

✓ Section A: Multiple Choice Questions

1. What does the symbol [ʃ] represent?

- a) Voiced alveolar fricative

- b) Voiceless palatal fricative

- c) Voiced palatal stop

- d) Voiceless alveolar fricative

2. Which of the following is an example of a nasal consonant?

- a) /b/

- b) /s/

- c) /m/

- d) /t/

3. The International Phonetic Alphabet (IPA) is used for:

- a) Spelling words correctly

- b) Representing sounds of spoken language

- c) Grammatical analysis

- d) None of the above

4. Which of the following words contains a diphthong?

- a) Beat

- b) Boat

- c) Cat

- d) Sit

5. What is the primary articulatory feature that distinguishes /p/ from /b/?

   - a) Voicing

   - b) Place of articulation

   - c) Manner of articulation

   - d) Nasality

   ✓ Section B: Short Answer Questions :

1. Define phoneme and provide an example.

2. Explain the difference between voiced and voiceless sounds with examples.

3. Describe what is meant by "complementary distribution" and provide an example.

4. What are the three main branches of phonetics? Briefly describe each.

5. Discuss the significance of stress in English pronunciation.

   ✓ Section C: Phonetic Transcription

Transcribe the following words into IPA notation.

1. Comfortable

2. Chocolate

3. Squirrel

4. February

5. Knowledge

Identify and correct the errors in the following transcriptions:

1. Correct transcription for "colon": [ˈkoʊlən]

2. Correct transcription for "ask": [æsk]

3. Correct transcription for "wishing": [ˈwɪʃɪŋ]

4.2 Keys to Sample Exam1

✓ Section A: Multiple Choice Questions

1. b) Voiceless palatal fricative

2. c) /m/

3. b) Representing sounds of spoken language

4. b) Boat

5. a) Voicing

✓ Section B: Short Answer Questions

1. A phoneme is the smallest unit of sound that can distinguish meaning in a language (e.g., /p/ and /b/ in "pat" vs "bat").

2. Voiced sounds involve vibration of the vocal cords (e.g., /b/, /d/), while voiceless sounds do not (e.g., /p/, /t/).

3. Complementary distribution occurs when two allophones of the same phoneme appear in different contexts without overlapping (e.g., aspirated [pʰ] in "pat" vs unaspirated [p] in "spat").

4. The three main branches of phonetics are:

- Articulatory Phonetics: Studies how speech sounds are produced.
- Acoustic Phonetics: Focuses on the physical properties of speech sounds as they travel through the air.
- Auditory Phonetics: Examines how speech sounds are perceived by the ear and processed by the brain.

5. Stress is important in English pronunciation as it can change the meaning or grammatical function of words (e.g., 'record as a noun vs re'cord as a verb).

✓ Section C: Phonetic Transcription

Transcriptions:

1. Comfortable → /ˈkʌmfərtəbl/

2. Chocolate → /ˈtʃɒklət/

3. Squirrel → /ˈskwɜːrəl/

4. February → /ˈfɛbrʊəri/

5. Knowledge → /ˈnɒlɪdʒ/

Corrections:

1. [ˈkɒlən] for "colon"

2. [ˈæsk] for "ask"

3. [wɪʃɪŋ] for "wishing"

4.3 Sample Exam 2

✓ Section A: Multiple Choice Questions

1. Which of the following symbols represents a voiced dental fricative?

- a) /θ/

- b) /ð/

- c) /s/

- d) /z/

2. What is the term for the phenomenon where a vowel sound is reduced to a schwa in unstressed syllables?

- a) Assimilation

- b) Elision

- c) Vowel Reduction

- d) Dissimilation

3. In which of the following words does the "ch" represent a voiceless postalveolar fricative?

- a) Church

- b) Character

- c) Chemistry

- d) Chord

4. The word "thought" is pronounced with which type of vowel sound?

- a) Diphthong

- b) Monophthong

- c) Triphthong

- d) Schwa

5. Which of the following is an example of an affricate sound?

- a) /tʃ/

- b) /ʃ/

- c) /d/

- d) /k/

✓ Section B: Short Answer Questions

1. Explain what is meant by "voicing" in phonetics and provide two examples of voiced and voiceless consonants.

2. Describe the articulatory process involved in producing the sound [k].

3. What is the International Phonetic Alphabet (IPA), and why is it important in the study of phonetics?

4. Discuss how intonation can affect meaning in spoken English with an example.

5. What are allophones? Provide an example of two allophones of the same phoneme in English.

✓ Section C: Phonetic Transcription

Transcribe the following words into IPA notation.

1. Comfortable

2. Vegetable

3. Queue

4. February

5. Entrepreneur

Identify and correct errors in the following transcriptions:

1. [ˈfɛbjuːəri] for "February"

2. [ˈvɛdʒtəbl] for "vegetable"

3. [ˈkjuː] for "queue"

4.4 Keys to Sample Exam 2

1. b) /ð/ (voiced dental fricative)

2. c) Vowel Reduction

3. a) Church (voiceless postalveolar fricative)

4. b) Monophthong

5. a) /tʃ/ (affricate sound)

✓ Section B: Short Answer Questions

1. Voicing refers to whether the vocal cords vibrate during the articulation of consonants:

Voiced examples: /b/, /d/.

Voiceless examples: /p/, /t/.

2. To produce the sound [k], the back of the tongue raises against the soft palate (velum), creating a complete closure that releases as air flows out when the tongue lowers.

3. The International Phonetic Alphabet (IPA) is a standardized system for representing speech sounds from all languages using unique symbols for each sound, allowing linguists and language learners to accurately transcribe and analyze pronunciation.

4. Intonation can change meaning; for example, "You're going." said with rising intonation can imply surprise or questioning, while falling intonation may indicate certainty or finality.

5. Allophones are variations of a phoneme that do not change meaning:

Example: The aspirated [pʰ] in "pat" vs unaspirated [p] in "spat."

✓ Section C: Phonetic Transcription

Transcriptions:

1. Comfortable → /ˈkʌmfərtəbl/

2. Vegetable → /ˈvɛdʒtəbl/

3. Queue → /kjuː/

4. February → /ˈfɛbruəri/ or /ˈfɛbruərɪ/

5. Entrepreneur → /ˌɒntrəprəˈnɜːr/

Corrections:

1. Correct transcription for "February": [ˈfɛbruəri] (the initial transcription is often acceptable but can vary).

2. Correct transcription for "vegetable": [ˈvɛdʒtəbl] (this transcription is correct).

3. Correct transcription for "queue": [kjuː] (this transcription is correct).

5. Conclusion

Mastering English phonology and pronunciation is not only crucial for effective communication but also plays an indispensable role in your academic journey as a first-year student in the Department of English as a Foreign Language at Tlemcen University. As you embark on this path, you will quickly realize that phonetics is more than just the study of sounds; it is an essential tool for understanding and producing accurate speech patterns. Whether your goal is to improve your clarity when speaking in class, enhance your listening skills, or increase your confidence in casual conversations, honing your phonological awareness will pave the way for success.

The process of learning English phonology can seem overwhelming at first, especially that English is not your first language. However, by breaking it down into manageable tasks and incorporating various strategies into your study routine, you will make steady and significant progress. As you continue on this linguistic adventure, consider the following key principles and practices to guide your learning.

A crucial step in improving your pronunciation is engaging in active listening. This skill goes beyond merely hearing words; it involves carefully paying attention to how native speakers articulate sounds, stress, rhythm, and intonation. Regular exposure to authentic English, through podcasts, movies, television shows, and music, will help you develop a nuanced understanding of the language. Try to listen to a variety of accents and dialects, as English is spoken differently in different regions of the world. This diversity will deepen your phonological awareness and give you a more rounded understanding of English pronunciation.

As you listen, make a note of the patterns you observe, such as how certain sounds may be linked or dropped in rapid speech, or how intonation patterns shift according to different types of discourse (e.g., formal speech, casual conversation,

or storytelling). Listening actively and repeatedly will help attune your ear to these subtle features, gradually allowing you to replicate them in your own speech.

A critical tool in mastering English pronunciation is phonetic transcription using the International Phonetic Alphabet (IPA). The IPA is a standardized system that represents the sounds of speech in written form, regardless of the language or its spelling conventions. By learning the IPA symbols for English sounds, you will gain the ability to accurately understand and produce the sounds of the language, even when spelling does not directly correlate with pronunciation.

Many learners find it difficult to distinguish between written forms of words and their spoken counterparts, especially since English has many irregular spellings. By familiarizing yourself with the IPA, you can bridge this gap and enhance your pronunciation. For instance, you might encounter the word "though" (/ðəʊ/) or "enough" (/ɪˈnʌf/), and understanding their IPA representations will help you pronounce them correctly, despite their unusual spellings. Regularly practicing phonetic transcription exercises will also train your ear to identify sounds more accurately, which in turn helps you correct any mispronunciations in your speech.

English pronunciation presents unique challenges, particularly when certain sounds do not exist in your native language. For example, non-native speakers of English often struggle with the "ng" sound, which does not have exact equivalents in many languages. Similarly, consonant clusters, which involve the articulation of multiple consonants together (e.g., "str" in "street"), can be difficult for learners to produce clearly and fluently.

To address these challenges, it is important to identify the specific sounds or sound combinations that are most problematic for you. Pay attention to these sounds while listening to native speakers and practice them repeatedly until they become more natural. You might find it helpful to break down difficult words into their individual sounds or syllables and practice them in isolation before combining them back into full words or sentences.

One of the most effective techniques for improving pronunciation is shadowing. Shadowing involves listening to a native speaker and attempting to mimic their speech as closely as possible in real time. This technique allows you to practice not only individual sounds but also the rhythm, stress, and intonation patterns of the language. By imitating the way native speakers produce speech, you can internalize these patterns and begin to use them naturally in your own speech.

You can practice shadowing with a variety of audio or video materials, such as speeches, interviews, or dialogues. Start with short segments, and repeat them multiple times until you feel confident in your ability to replicate the sounds and rhythms accurately. Pay special attention to the subtle nuances of intonation, pitch, and stress, as these are crucial components of natural-sounding speech. Over time, this technique will help you speak more fluently and with greater ease.

Recording yourself speaking is another invaluable practice for improving your pronunciation. It allows you to compare your speech with that of native speakers and identify areas for improvement. Whether you're reading a passage aloud, practicing a new word, or engaging in free speech, recording your voice will give you a clear sense of how you sound and highlight areas where you may be mispronouncing sounds or struggling with rhythm.

After recording, listen to your speech critically. Ask yourself: Does it sound similar to the native speaker's version? Are there specific sounds or patterns that you can improve upon? Using a mirror or visual aids, you can also check whether your mouth is positioned correctly for producing certain sounds. Through regular self-assessment and practice, you will see continuous improvement in your ability to articulate sounds accurately.

Finally, one of the most effective ways to improve your pronunciation is by seeking constructive feedback from others. This could come from peers, language partners, or instructors who are experienced in phonetics. Constructive feedback allows you to pinpoint your pronunciation mistakes and provides clear guidance on how to

correct them. When practicing with others, you can engage in role-playing activities, reading exercises, or informal conversations, which provide opportunities to practice real-life language use. Engaging in peer learning also fosters a supportive learning environment where you can share strategies, correct each other's mistakes, and motivate one another. Group practice sessions can be a great way to practice phonetics in a relaxed and collaborative setting.

Improving your phonology and pronunciation skills in English requires dedication, patience, and a combination of different strategies. By incorporating active listening, phonetic transcription, targeted practice, shadowing exercises, self-reflection, and peer feedback into your study routine, you can make significant strides in your ability to speak English more clearly and confidently. Remember, phonetic mastery is a gradual process, but with consistent effort and the right approach, you will find yourself speaking more fluently and naturally. Embrace the challenges and take pride in your progress, knowing that every step you take brings you closer to mastering the sounds of English.

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7. APPENDICES

Appendix A. List of English Phonemes (consonants).

Consonants

Phoneme	IPA Symbol	Graphemes	Examples	Voiced?
1	b	b, bb	bug, bubble	Yes
2	d	d, dd, ed	dad, add, milled	Yes
3	f	f, ff, ph, gh, lf, ft	fat, cliff, phone, enough, half, often	No
4	g	g, gg, gh,gu,gue	gun, egg, ghost, guest, prologue	Yes
5	h	h, wh	hop, who	No
6	dʒ	j, ge, g, dge, di, gg	jam, wage, giraffe, edge, soldier, exaggerate	Yes
7	k	k, c, ch, cc, lk, qu ,q(u), ck, x	kit, cat, chris, accent, folk, bouquet, queen, rack, box	No
8	l	l, ll	live, well	Yes
9	m	m, mm, mb, mn, lm	man, summer, comb, column, palm	Yes
10	n	n, nn,kn, gn, pn, mn	net, funny, know, gnat, pneumonic, mnemonic	Yes
11	p	p, pp	pin, dippy	No
12	r	r, rr, wr, rh	run, carrot, wrench, rhyme	Yes
13	s	s, ss, c, sc, ps, st, ce, se	sit, less, circle, scene, psycho, listen, pace, course	No
14	t	t, tt, th, ed	tip, matter, thomas, ripped	No
15	v	v, f, ph, ve	vine, of, stephen, five	Yes
16	w	w, wh, u, o	wit, why, quick, choir	Yes
17	z	z, zz, s, ss, x, ze, se	zed, buzz, his, scissors, xylophone, craze	Yes
18	ʒ	s, si, z	treasure, division, azure	Yes
19	tʃ	ch, tch, tu, te	chip, watch, future, righteous	No
20	ʃ	sh, ce, s, ci, si, ch, sci, ti	sham, ocean, sure, special, pension, machine, conscience, station	No
21	θ	th	thongs	No
22	ð	th	leather	Yes
23	ŋ	ng, n, ngue	ring, pink, tongue	Yes
24	j	y, i, j	you, onion, hallelujah	Yes

Appendix B. List of English Phonemes (Vowels).

Vowels

Phoneme	IPA Symbol	Graphemes	Examples
25	æ	a, ai, au	cat, plaid, laugh
26	eɪ	a, ai, eigh, aigh, ay, er, et, ei, au, a_e, ea, ey	bay, maid, weigh, straight, pay, foyer, filet, eight, gauge, mate, break, they
27	ɛ	e, ea, u, ie, ai, a, eo, ei, ae	end, bread, bury, friend, said, many, leopard, heifer, aesthetic
28	i:	e, ee, ea, y, ey, oe, ie, i, ei, eo, ay	be, bee, meat, lady, key, phoenix, grief, ski, deceive, people, quay
29	ɪ	i, e, o, u, ui, y, ie	it, england, women, busy, guild, gym, sieve
30	aɪ	i, y, igh, ie, uy, ye, ai, is, eigh, i_e	spider, sky, night, pie, guy, stye, aisle, island, height, kite
31	ɒ	a, ho, au, aw, ough	swan, honest, maul, slaw, fought
32	oʊ	o, oa, o_e, oe, ow, ough, eau, oo, ew	open, moat, bone, toe, sow, dough, beau, brooch, sew
33	ʊ	o, oo, u,ou	wolf, look, bush, would
34	ʌ	u, o, oo, ou	lug, monkey, blood, double
35	u:	o, oo, ew, ue, u_e, oe, ough, ui, oew, ou	who, loon, dew, blue, flute, shoe, through, fruit, manoeuvre, group
36	ɔɪ	oi, oy, uoy	join, boy, buoy
37	aʊ	ow, ou, ough	now, shout, bough
38	ə	a, er, i, ar, our, ur	about, ladder, pencil, dollar, honour, augur
39	eəʳ	air, are, ear, ere, eir, ayer	chair, dare, pear, where, their, prayer
40	ɑ:	a	arm
41	ɜ:ʳ	ir, er, ur, ear, or, our, yr	bird, term, burn, pearl, word, journey, myrtle
42	ɔ:	aw, a, or, oor, ore, oar, our, augh, ar, ough, au	paw, ball, fork, poor, fore, board, four, taught, war, bought, sauce
43	ɪəʳ	ear, eer, ere, ier	ear, steer, here, tier
44	ʊəʳ	ure, our	cure, tourist

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