

التنوعات الصوتية القطعية – التركيبية في التحليل الفونولوجي

Segmental and Syntagmatic Variations in Phonological Analysis

Boukherraz Assia, Rouabi Amel

¹ University of Blida 2, (Algeria), a.boukherraz@univ-blida2.dz

² University of Blida 2, (Algeria), ame.rouabi@univ-blida2.dz

Received: 05/08./2025	Accepted 25./09./2025	Published 15/12/2025
Abstract	الملخص	
Linguistic structures, or contexts, are formed by the interplay of various words, each carrying distinct denotations and contributing uniquely to the overall construction. Similarly, individual words are composed of different letters, with each letter inherently serving a specific function within its word's formation. Consequently, these letters undergo diverse phonetic alterations or variations depending on the intended meaning. These phonetic shifts, whether occurring at the level of broader linguistic units (structures) or within specific individual words, are critical in shaping and influencing the conveyed meaning. Therefore, this paper specifically addresses a form of phonetic variation that encompasses the phonetic features and subdivisions central to a word's structure, ranging from letters (phonemes) to syllables.	يتألف التركيب أو السياق من كلمات مختلفة لكل منها دلالتها ووظيفتها فيه، فإن الكلمة الواحدة تتألف من حروف مختلفة، وحتما لكل واحد منها وظيفته الخاصة في هذا التركيب، ومن ثم تطرأ على الحروف عدة تبدلات أو تنوعات صوتية تصدر حسبما يقتضيه المعنى المراد، وهذه التبدلات أو التنوعات أو التلوينات الصوتية التي تطرأ على الوحدات اللغوية (التركيب) أو على أي وحدة معينة، هي التي تحدد المعنى المراد فتؤثر عليه. ومن هنا اختصت هذه الورقة البحثية بشكل من التنوع الصوتي يشمل الملامح والتفرعات الصوتية التي تُمثل جزءاً أساسياً في بنية الكلمة من حروف أي فونيمات ومقاطع.	
Keywords : Phonetic Variations, Phoneme, Syllable.	كلمات مفتاحية: التنوعات الصوتية، الفونيم، المقطع.	

Corresponding author: BOUKHERRAZ ASSIA, a.boukherraz@univ-blida2.dz

1. INTRODUCTION

Phonetic variations, often referred to as features or distinctions, fall into two primary categories: segmental and suprasegmental. Segmental variations encompass fundamental linguistic units, including phonemes and syllables. They're termed "segmental" because they appear within discrete linguistic units that can be combined sequentially.

Conversely, suprasegmental variations involve phonetic characteristics like stress, intonation, and juncture. These features don't appear in a linear sequence but are inherent to the sound itself, and their presence can alter meaning. They represent aspects of spoken language that affect the overall sound, even without a direct linear representation within the linguistic structure. They emerge as a collection of features that span across or apply to multiple segments, accompanying and influencing the structure of speech, often overriding individual phonemes.

This paper specifically focuses on a form of phonetic variation that forms the core of the fundamental structure and functional sound system: the phoneme and the syllable. These are central to understanding phonetic variations, and the categories mentioned above are named based on them. Phonemes are typically divided into two types: primary phonemes, which are an essential part of a word's inherent structure, and secondary phonemes, which aren't part of the word's core structure but relate to aspects like pitch, stress, tone, and the overall melody of speech (intonation). These categories are also known by other designations:

➤ Segmental Phonemes:

These consist of consonants and vowels. Their count differs across languages; for example, English has twenty-four consonants compared to twenty-eight in Arabic, and nine primary vowels in English versus six in Arabic. Some linguists refer to them as structural phonemes because speech is sequentially built from them. Others call them linear phonemes due to

their arrangement in a straight line during speech. Additionally, some refer to them as primary phonemes as they form the foundational elements of speech sounds.

➤ **Supra segmental Phonemes:**

These phonemes are articulated in parallel with segmental phonemes and include stresses, tones, and junctures. Linguists have various terms for them. Some call them supra-structural or superstructural in contrast to segmental phonemes. Others refer to them as prosodic phonemes because they contribute to the rhythmic and melodic aspects of speech. They are also sometimes termed embellishing phonemes, likened to embroidery that adorns a piece of fabric. In most contexts, these names imply that supra segmental phonemes occur in conjunction with segmental phonemes.(Mohammad Ali Al-Khouli, 2009, p63)

From the above discussion, it's clear that the phoneme remains central to the study of functional phonetics. It can be thought of as a sound unit and represents the different acoustic realizations of a single sound, being the smallest indivisible and non-meaning-bearing sound unit in isolation. (Kamal Bishr, *ibid*, p496)

2. Causes of Phonetic Changes and Variations

2.1 Language Transmission Across Generations:

This occurs through teaching, oral tradition, or learning. Language cannot be passed down from one generation to another without some degree of change, however slight. These changes manifest either over time or due to specific contextual placement within a linguistic structure, where the influence of certain sounds on others leads to alterations in their qualities or pronunciation.

2.2.Inter-language Influence: This includes factors like conquest and migration, such as the historical impact of Arabic on other languages during the Islamic expansions.

2.3.Various Societal Factors: These include religious, national, and other social determinants.

2.4.Emergence of Dialects:

For instance, speakers of Arabic shifted from pronouncing many classical sounds to other sounds, such as the voiceless dental fricative, voiced dental fricative, and emphatic voiced dental fricative. These sounds transformed in some dialects to the voiceless dental plosive, voiced dental plosive, and emphatic voiced dental plosive, respectively. For example, people might say a pronunciation equivalent to "time's third" instead of "a third," or "tail" instead of "a tail."

2.5.Purely Phonological and Morphological Reasons:

Sound change is among the most significant causes of phonetic variations, including morphological changes such as vowel alterations, sound substitutions, assimilations, and emphasis. (Samih Abu Moughli, 1987, p 47)

3. Definition of the Phoneme:

The phoneme is considered the smallest abstract linguistic sound unit that differentiates one word from another, signifying a distinct linguistic sound, such as /a/, /t/, /d/, /j/, /h/. Authors in the Arabophone world have translated it as "sound" or "sound unit," while some have adopted phoneticized versions or retained the original term "phoneme."

The preceding definition includes the term "abstract" to indicate that while a phoneme has multiple acoustic realizations in actual speech, the mind retains a single, idealized mental representation extracted from these various forms. This abstract representation is part of the linguistic system that an individual stores in memory.

In spoken language, a phoneme manifests in various closely related forms depending on its position within a word, influenced by preceding or succeeding sounds. For instance, the phoneme /r/ in the Arabic word *rāja* 'a is pronounced slightly differently from its pronunciation in *raḍa* 'a. Similarly, the pronunciation of /s/ in *sajada* differs from that in *saṭa* 'a. These distinct phonetic forms encountered in real speech are referred to as allophones. An allophone is a real speech sound that is distributed complementarily and varies freely. It is pronounced in multiple forms, and

there is a consensus that this phonetic element or sound image is a true sound whose alteration does not change the meaning. This contrasts with the phoneme, which is an unpronounced, abstract unit. According to Trubetzkoy, a phoneme is constant within each linguistic system and finite in number, whereas allophonic variations are unstable and assume diverse forms based on adjacency, pronunciation, and contact.

For example, the Arabic word 'ayn, when analyzed, consists of the phonemes /ʔ/-/y/-/n/. Each of these units, or phonemes, has a distinctive function that allows differentiation between 'ayn, bayn, and other units such as dīn. In French, words may share the same phonemes, with the distinction resting on a single phoneme or distinctive feature, such as the contrast between /b/ and /p/.

Scholars and specialists across all languages classify phonemes. The importance of classification lies in its fundamental role in facilitating the study of phonemes, as it is based on specific criteria. The considerations for classifying phonemes are numerous, the most important being the categorization of any language's sounds into the well-known groups of consonants and vowels. This classification is based on criteria related to the inherent nature of the sounds and their distinguishing characteristics.

Thus, according to Ghazi Mokhtar Tleimat, the phoneme represents "the smallest sound unit through which meanings can be differentiated." This indicates the possibility of breaking down the phoneme to reach something smaller or simpler, the allophone, much as nuclear physicists analyze the atom, finding positive and negative electrons and a third type devoid of charge. Similarly, linguists have found that the phoneme contains an element devoid of a positive or negative impact on meaning determination, which they termed the allophone. (Ghazi Mokhtar Tleimat, 2007, p150)

A phoneme is an acoustic form that a sound takes, distinguishing it from another sound by specific attributes—these are the distinctive features. We can differentiate between a sound and a phoneme in words like *vide* and *vite*. The sound /i/ in these two words represents two distinct acoustic realizations, as they are varied productions of a single phoneme, which is /i/. The sound /i/ in *vide* is fundamentally the same as the sound /i/ in *vite*,

but with a slight elongation. However, if we compare the sounds /d/ and /t/, we find them to be distinct phonemes. (Tayeb Debba, 2002, pp 171-172)

The Arabic language is composed of thirty-four structural phonemes distributed as follows:

- Three phonemes for short vowels.
- Three phonemes for long vowels.
- Two phonèmes for semi vowels.
- Twenty-six phonemes for consonants.

The short vowels are /a/, /u/, and /i/. The long vowels are /ā/, /ū/, /ī/ (represented by *alif maddiyyah*, *waw maddiyyah*, and *yaa maddiyyah*, respectively). The semi-vowels are the transitional /w/ and /y/. Arabic phonemes are characterized by their inherent independence and non-overlapping nature, exhibiting a harmonious relationship between their phonetic realizations and their orthographic representations.

Consider, for example, the varied pronunciations of the word *musaytir* in Quranic recitations. It is sometimes articulated with a light/s/ sound and at other times with a heavy /š/ sound. Given that both pronunciations convey the identical meaning, these two distinct sounds are consequently categorized as allophonic realizations of a single underlying phoneme.

Ferdinand de Saussure, in his pioneering study of the phoneme, delineated two fundamental aspects of speech activity:

3.1.The Organic Aspect:

De Saussure critically observed: "Many phonologists almost exclusively focus on the process of phonation, that is, the production of sounds using organs (like the larynx and mouth), neglecting the auditory (acoustic) aspect. This is not a sound methodology, as we do not directly perceive the impressions received by our ears." Here, he emphatically underscores the reciprocal importance of both the physiological and physical dimensions throughout the communication process. (De Saussure, translated by Yousef Ghazi,1986, p70)

3.2.The Auditory Aspect:

Relying on the auditory (acoustic) dimension is paramount for comprehending phonetic units. Without this sensory input, precise identification becomes impossible. Even if a listener cannot discern the precise organic boundaries of a sound, they can invariably perceive its auditory distinctions, even when encountering an unfamiliar language. (Zoubir Draghi,1990, p88)

3.3.The Prague School's Perspective on the Phoneme.

It is pertinent to delve into how scholars of the Prague School approached this fundamental unit within linguistic structure. This school's methodology was characterized by a purely functional analysis of the language system across all its diverse levels: grammatical, morphological, phonetic, and semantic. This comprehensive scope allowed it to encompass several key areas, including synchronic functional phonetics, historical functional phonetics, the classification of phonological oppositions, and functional linguistic stylistics.

While de Saussure's foundational concept posited language as a system of arbitrary signs, the Prague School viewed that "language is a system of functions, and each function is a system of signs." Sampson further elucidated this school's proponents' view on language by stating: "Language is like an engine, and linguists must understand what tasks its different components perform, and how the nature of one component determines the nature of the other components..." (Ahmed Momen, 2005, pp136-137)

Crucially, the Prague School linguists did not treat the phoneme as merely a segment of sounds or a tool for phonetic transcription. Instead, they regarded it as a complex phonological unit, realized through actual speech sounds. Consequently, the relationship of realization (representation or application) between units at one level and those at another constitutes a fundamental topic intrinsically linked to the Prague School's contributions.

Every phoneme is comprised of several distinctive or pertinent features, which are the sole elements granting the phoneme its status as a linguistic entity. Each distinctive feature stands in opposition to its absence or to another feature found in at least one other phoneme within the language. Furthermore, phonological systems were systematically categorized based on the distinctive features of their constituent phonemes. Thus, in English, phonemes such as /p/, /g/, and /k/ form voiced and voiceless oppositions across various articulatory positions.

As a direct outcome of the Prague School's influential work, the phoneme transitioned into "one of the essential elements in linguistic theory as a whole, and in the scientific description and analysis of languages." While the primary endeavors of the Prague School were dedicated to interpreting the concept of the phoneme and advancing phonological theory, its members also contributed several notable studies in other linguistic domains, including more peripheral topics such as linguistic styles or matters related to artistic expression (Sharaf El-Din Al-Rajhi et al, 2003, pp 50-51).

Every spoken utterance inherently consists of a sequence of sounds, each transitioning fluidly into the next, yet no two sounds are ever perfectly identical. We can confidently assert the possibility of identifying the precise boundaries between one sound and another, and indeed, of substituting one sound within this sequence for another.

It is a widely accepted principle in linguistic studies that a number of these linguistic sounds can be grouped under a single, overarching term, such as "n". For instance, "n" serves as a comprehensive term that encompasses several distinct sounds: the initial sound in "nahnu" (we), the sound preceding the "t" in "in taba" (if he repented), before the emphatic "dh" in "in thahara" (if it appeared), before the "sh" in "in sha'a" (if he willed), and before the "q" in "in qala" (if he said). This grouping occurs despite clear articulatory differences between these specific sound realizations. It is noteworthy that the "n" sound in "in taba" and "in thahara"

is produced with the tongue in an analogous manner to the "t," "dh," and emphatic "dh" sounds. Consequently, this collection of sounds was designated as the "h" sound, thereby rendering the concept of a "letter" broader than that of a "sound". (Muhammad Rashad Al-Hamzawi, 1987, pp186-187)

Thus, a phoneme is best defined as the smallest sound unit distinguished from other units by a unique set of acoustic features, crucially capable of differentiating two otherwise identical words (for example, "ha'it" (wall) and "ha'ir" (puzzled), which diverge solely by the final sound /t/ versus /r/).

Ibrahim Al-Zurayqat, from a distinct perspective, conceives of the phoneme as: "the smallest unit in a language which, when combined with other units, forms meanings for words that are easily distinguishable from each other. Thus, the phoneme is a linguistic unit used within the system of a specific language."

4. Phoneme Relationships, Importance, and Objectives

4.1. Phoneme Relationships

4.1.1.Horizontal Relationships: The phonetic level comprises allophones that systematically group into families, each termed a phoneme. These phonemes subsequently combine to form the morphological unit, or morpheme, which represents the smallest meaningful linguistic unit. Morphemes then concatenate to construct lexical items, or words. Ultimately, words coalesce to form sentences at the syntactic level. Across all these preceding levels, the progression inherently moves towards the establishment of meaning. These horizontal relationships of the phoneme are sometimes referred to as linear relationships.

4.1.2.Paradigmatic Relationships: These relationships are evident in the phenomenon of opposition. Phonemic opposition occurs when the substitution of one phoneme for another results in a change in the word's meaning (this change is contingent upon the distinction in distinctive

features). Such an opposition is designated a paradigmatic opposition. For instance, replacing the /n/ in the Arabic word *nal* (obtained) with /s/, /q/, /z/, /m/, or /h/ yields *sal* (flowed), *qal* (said), *zal* (ceased), *mal* (inclined), and *hal* (passed), respectively.

3.1.3.Binary Relationships: Phonemes can stand in opposition to each other in pairs, a phenomenon termed binary opposition. Examples include the pair /b/ and /m/. Both are bilabial, yet the former is a stop consonant while the latter is a nasal. (Mohammad Ali Al-Khouli, 2009, pp 65-67)

3.1.4.Proportional Relationships: When a phoneme relates to a group of phonemes, the opposition in this scenario is classified as a proportional opposition. For example, if a proportionality exists between several phonemes, it can be expressed by the well-known mathematical proportion: /t/ /d/ = /tʰ/ /dʰ/ = /s/ /z/ = /kh/ /gh/ = /ħ/ /ʕ/. These proportional relationships imply the following:

- ✓ The articulatory difference between /t/ and /d/ is analogous to the difference between /tʰ/ and /dʰ/, and it is equivalent to the difference between every other pair within this proportion.

- ✓ All phonemes in the numerator share a common feature; for instance, /t/, /tʰ/, /s/, /kh/, and /ħ/ are all voiceless.

- ✓ All phonemes in the denominator similarly share a common feature, which, in this specific case, is voicing. This applies to /d/, /dʰ/, /z/, and /ʕ/.

- ✓ A proportional relationship is fundamentally composed of a series of oppositional relationships, each presenting as a fraction with a numerator and a denominator. (Mohammad Ali Al-Khouli, 2009, p 67)

4.2. Importance and Objectives of the Phoneme

The significance of the **phoneme** lies in the scientific objectives it achieves, which include:

- **Distinguishing between words:**

A phoneme, as a single sound unit, differentiates one word from another, such as in the contrast between "said" and "obtained."

- **Facilitating foreign language acquisition:**

While actual spoken sounds vary across languages, phonemes simplify the process of learning to pronounce these sounds correctly later on.

- **Aiding in accurate writing systems:**

The phoneme plays a role in developing precise orthographies, where a single symbol is assigned to each phoneme, often using written symbols or auxiliary marks to denote prominent features or the phonetic form.

- **Explaining linguistic phenomena:**

Phonemes can account for certain issues arising from unit or closely related inputs, or they can explain structural changes that affect sounds, such as substitution and assimilation. (Ahmed Mohamed Kaddour, 1999, pp. 108-109)

- **Analyzing language efficiency:**

Furthermore, phonemic analysis studies the innovative ways in which each language utilizes its sound resources to ensure communication among its users.

- **Studying distinctive units:**

Finally, it involves the study of the distinctive units that stand in opposition to each other, as previously discussed.

- **Understanding phonetic blending:**

Regarding different phonetic realizations, it is observed that they often overlap and tend to merge. This tendency is a real phenomenon resulting from their blending.

- **Maintaining communicative distinction:**

The need to preserve distinctions for communication can lead to ambiguity. However, this balancing force relies on the functional output of opposition. Therefore, developments in functional sounds should be understood through statistical analysis of functional output, given that these fundamental concepts were used by Martinet to explain sound changes. (André Martinet, 1916, p13)

André Martinet, through his theory, aimed to explain language evolution using simple, unambiguous terms such as language, sentence, phoneme, distinctive feature, and lexeme. (Geoffrey Sampson, 1983, pp 118-119)

4. Definition and Types of Syllables

4.1. Definition of the Syllable

Defining the syllable has proven a persistent challenge for phoneticians, who have yet to coalesce around a singular, universally accepted concept. This lack of consensus stems primarily from divergent scholarly perspectives concerning the syllable's acoustic-physical versus its articulatory function. Such ongoing debate is clearly reflected in the diverse array of definitions proposed by contemporary researchers, all of which, however, underscore the syllable's undeniable significance within phonetic inquiry.

First: Among Modern Western Scholars

- ❖ **Ferdinand de Saussure:** De Saussure concisely characterized the syllable as "the fundamental unit within which the phoneme functions" (Ferdinand de Saussure, translated by Yousef Ghazi, Majid Al-Nasr, 1986, p27). This definition underscores the syllable's role as the essential structural environment for phonemic realization.
- ❖ **Jean Cantineau:** Cantineau defined the syllable in articulatory terms, proposing it as "the interval between two operations of closing the vocal apparatus, whether the closure is complete or partial" (Ibrahim Anis, n.d., p196). This highlights the cyclical nature of speech production as central to syllabic organization.
- ❖ **Mario Pei:** Pei emphasized the syllable's critical role in the acquisition of native-like pronunciation. He argued that phonemic clusters, when structured as syllables, offer speakers a superior opportunity for practice and training. Consequently, if a gradual, deliberate syllabic pronunciation, coupled with a systematic approach to its contextual variations, is adopted, then the syllable, in its simplest form, represents a specific phonemic sequence within a given language. He noted that two primary approaches have emerged in defining the syllable and delineating its boundaries: a phonetic approach and a functional approach.
- ❖ **Paulinger:** This scholar underscored the intrinsic importance of the syllable, asserting that phonemes possess no independent existence

outside its boundaries. His reasoning was that phonemes are not articulated in isolation by human speakers; rather, they occur in clusters. Their inherent properties, distinctive characteristics, and the manner of their organization into syllables are thus dependent on the syllable's inherent nature and its specific configurations.

- ❖ **Maréchal:** Maréchal's published research findings further corroborated the syllable's significance, affirming its role as a robust foundation for linguistic analysis. His work helped to move away from the perception of the syllable as "a boundless phonetic phenomenon, and the grouping of phonemes into syllables was merely a convention without objective realization." This shifted understanding towards recognizing the syllable as an empirically verifiable and analytically crucial unit.
- ❖ **Experimental Evidence:** Complementing theoretical perspectives, experimental studies have provided empirical support, demonstrating that chest muscles generate a distinct pressure pulse corresponding to each individual syllable.(Abd al-Qader al-Jalil, 1998, pp 214-216)

Second: Among Modern Arab Scholars

- ❖ **Tamam Hassan:** He defines syllables as "expressions in an organized pattern of analytical components or chest pulsations during speech." (Tamam Hassan, 1998, p 170)
- ❖ **Ahmed Mukhtar Omar:** He states that the syllable "forms a level in the hierarchical ladder of phonetic units, each of which is formed from the smallest preceding unit, the smallest unit being the phoneme. Then comes the syllable composed of phonemes in a specific order. Then comes the intonation group (train of syllables) containing stress and sequences of intonation groups." (Ahmed Mukhtar Omar, 1997, p 282)
- ❖ This means that each language has specific rules governing its syllabic system within a series of speech events to form an organized pattern where components are sequences of consonants and vowels. There are sequential levels that form the structure, starting with the smallest unit, the phoneme, then the syllable composed of phonemes, the morpheme

composed of one or more syllables, and finally, a group of morphemes forming the structure or sentence.

- ❖ **Hussam Saeed Al-Nuaimi:** He defines it as "a phonetic unit that begins with a consonant followed by a vowel and ends before the first consonant that appears followed by a vowel." (Hussam Saeed Al-Nuaimi, 1998,p08)Here, he provides the boundary of the syllable, indicating that it can be in its smallest form, which is consonant + vowel (C+V), and can be in other forms where a consonant + vowel is found at the end, marking the beginning of another syllable.
- ❖ The phonological approach defines the syllable by considering it as a unit in a specific language. In this case, the definition of the syllable must refer to "several different sequences of consonants and vowels, in addition to some other features such as length, stress, and tone, or individual vowels considered in the specific language as a single group relative to any other analysis." (Hussam Saeed Al-Nuaimi, *ibid*, p285)

4.2. Types of Syllables

There are two main types of syllables:

- **Based on Composition (Material):** This refers to the components of the syllable or the number of its parts/phonemes/sounds.
- ✓ **Short Syllable:**
Consists of no more than two phonemes (e.g., C V: /bæ:/, /fi:/, /tʊ/).
- ✓ **Medium Syllable:**
Consists of three phonemes (e.g., C V V: /ma:/, /lu:/, /fi:/).
- ✓ **Long Syllable:** Includes more than three phonemes.
 - C V C (e.g., /hɑ:m/, /nu:m/, /si:m/). /C V C C (e.g., /ʕilm/, /faʕb/, /biʔr/).
 - **Based on Structure (Shape):** This depends on the syllable's ending, which can be a vowel (open) or a consonant (closed).
- ✓ **Open (Free) Syllable:** Starts with a consonant and ends with a vowel (e.g., C V /ra/, C V V /ra:/).
- ✓ **Closed Syllable:** Starts with a consonant and ends with one or two consonants.
 - C V C (e.g., /lam/, /min/). / C V V C (e.g., /na:r/, /li:m/).
 - C V C C (e.g., /samt/, /sihr/).

5. Types and Characteristics of Syllables in Arabic

5.1. Types of Syllables in the Arabic Language

Arab scholars have presented diverse classifications of syllable types, a divergence that stems from the reliance on regional pronunciations. This is because Arabic speakers often employ the syllabic system prevalent in their colloquial dialects, even when speaking Classical Arabic.

Ahmed Mukhtar Omar identified five types of syllables in Arabic, as illustrated in the table below:

Figure 02: Syllable Identification according to Ahmed Mukhtar Omar

Type	Structure	Example
Short Open Syllable	(C V)	ba, mu, li
Medium Closed Syllable	(C V C)	/man/ ("who") /qul/ ("say!") /lan/ ("never")
Medium Open Syllable	(C V V)	/ma:/ ("what") /ha:/ ("this/here") /na:/ ("we")
Long Closed Syllable	(C V V C)	/na:r/ ("fire") /ʔa:r/ ("cave" or "he became jealous")
Longest Closed Syllable	(C V C C)	/maθl/ ("example") /ʕilm/ ("knowledge")

The common and frequently used syllable types in Arabic are:

- ✓ **Short Open Syllable (CV):** This type consists of a single consonant followed by a short vowel. Examples: /la/ - (e.g., in /kataba/ "he wrote", where each syllable is CV: /ka/, /ta/, /ba/)
- ✓ **Medium Open Syllable (CVV):** This type comprises a consonant followed by a long vowel. Example: /li:/
- Medium Closed Syllable**

(CVC): This type consists of two consonants with a short vowel in between. Example: /man/ - "who"

- ✓ **Long Closed Syllable (CVVC):** This type features a long vowel positioned between two consonants. Example: /ba:b/ "door"
- ✓ **Extra-Long Closed Syllable (CVCC):** This type begins with a consonant, followed by a short vowel, and then two consecutive consonants. Example: /nahr/ "river"

5.2. Characteristics and Features of Syllables in Arabic

From the above, we can conclude that:

Based on phonological analysis, we can conclude the following about Arabic syllable structure:

- Arabic possesses **five primary syllable types**, and all Arabic syllables universally begin with a consonant (C).
- Arabic words typically do not exceed **four syllables**, with rare exceptions found in specific morphological patterns like *yatafa* ‘‘al, *yatafa* ‘‘alal, or *yatafa* ‘‘al.
- Arabic generally **avoids consonant clusters at the beginning of syllables**, meaning structures like (CCV) are not permissible, as Arabic prohibits the meeting of two successive silent (geminated) consonants within a syllable. This contrasts with English, which allows such clusters (e.g., "tree" /tri:/), and even some colloquial Arabic dialects (e.g., *ksab* "he gained", *kitaab* "book").
- Arabic tends to **avoid excessively long syllables**, such as CVCC or CVVCC.
- The most **frequent syllable types** are CVC and CV, while the less common types are CVVC and CVCC, which typically occur only in word-final positions during pause ..
- The **CVCC syllable type** is generally not permitted in Arabic except at the **absolute end of a word when pausing**. For this to occur, the subsequent syllable (if the word were not in pause) would need to begin with a consonant identical to the final consonant of the preceding syllable. This phenomenon is what Arabic grammarians refer to as the "meeting of two silent consonants", particularly when the first is a long

vowel and the second is assimilated, as in *aḍ-ḍālīn*. Consequently, such structures are often reanalyzed into simpler forms. For example, the jussive form of "he performs" is *lam yaqum*, originally *lam yaqūmu*, where the syllable *qūm* represents a CVCC type that Arabic typically avoids. (Ahmed Mukhtar Omar, 2001, p 307)

It's evident that the first three syllable types CV (short open), CVC (medium closed), and CVCC (extra-long closed) are the most frequently used. Additionally, Tamam Hassan identified a sixth syllable type: a lone consonant (C), representing a quiescent (*sukūn*) consonant. This occurs in the definite article *lām* and the *sīn* of *istif'āl*. For instance, in *istakhraja*, the structure might be analyzed as V.C / CVC / CV / CV (e.g., /ɪs.takh.ra.ja/). Another example is *al-baḥr*, which might be V.C / CVC / CV. However, since Arabic words cannot begin with silent consonant, an anaptyctic vowel (*hamzat al-waṣl*) is inserted before such a consonant, forming a structure of (VC), resulting in short closed syllable. (Tamam Hassan, 1998, p69)

Some phoneticians also term the **medium open syllable (CVV)** as "long", while considering the **long closed syllable (CVVC)** as "extended".

6. Importance of the Syllable

The discussion thus far clearly establishes the syllable's significant importance as the largest unit necessary to explain how phonemes combine within a given language. It fundamentally represents a crucial level in the hierarchical structure of phonetic units that collectively form language, progressing from the phoneme to the syllable, and then to the word.

Furthermore, a comprehensive understanding of the syllable—including its boundaries and various types—greatly facilitates the language learning process, particularly for written language acquisition. It also directly aids in the correct pronunciation of words, offering practical solutions for non-native speakers grappling with foreign languages. Moreover, this understanding provides a crucial linguistic foundation for

identifying the positions of stress (suprasegmental variations), where stress exerts its influence directly within the syllable itself.

- **Conclusion:**

Language inherently constitutes a system of sound symbols whose inherent value is derived from the dynamic relationship between the two parties engaged in communication: the speaker and the receiver. As Abd al-Salam Al-Masdi (1986, p. 45) points out, "These symbols used by the members of a linguistic community are limited; most languages operate with around thirty sound symbols each, and all human languages combined do not exceed fifty sound symbols, with each language having its share." These symbols, in one of their manifestations, represent phonemes.

Therefore, this article specifically focused on a type of segmental-structural phonetic variation, which forms the bedrock of the functional phonetic structure and system, primarily represented by the phoneme. This exploration was achieved by detailing its core concept, its articulatory features, as well as its intricate relationships and overall importance.

The foundational linguistic structure ultimately arises from the union of a consonant with a vowel, thereby forming the nucleus of the linguistic family—the syllable. When vowels are broken down into their constituent elements, the very roots of phonetic variations extend into two primary types: extensive and prolonged. Both of these types further branch into various sub-categories, and it is these vowels, in conjunction with consonants, that collectively form the syllable. For scholars, the syllable stands as the initial building block from which all linguistic structures originate, serving simultaneously as the ultimate point to which all linguistic analysis leads.

Ultimately, the wealth of scientific information presented herein underscores a critical insight: the importance of segmental phonetic variations is paramount for both the integrity of a language and the quality

of communication it facilitates. This is because any imbalance at this fundamental level—whether concerning the phoneme or the syllable—inevitably leads to diverse linguistic disorders, hindering effective and accurate communication.

Références

1. Abu Maghli, Samih (1987), *On Arabic Philology and Issues*, 1st ed. Majdalawi Publishing House, Amman Jordan ;
2. Anis, Ibrahim (n.d.), *Linguistic Sounds*, 4th ed, The Anglo-Egyptian Bookshop;
3. Omar, Ahmad Mukhtar (1997), *The Study of Linguistic Sound*, [n.p.] Alam al-Kutub, Cairo Egypt ;
4. Omar, Ahmad Mukhtar (2001), *The Study of Linguistic Sound*, Alam al-Kutub, Cairo Egypt;
5. kadour, Ahmad Muhammad (1999), *Principles of Linguistics*, 2nd ed. Dar al-Fikr, Damascus ;
6. Momen, Ahmad (2002), *Linguistics: Origin and Development*, Diwan al-Matbuat al-Jami'iyah, Algeria ;
7. Momen, Ahmad (2005), *Linguistics: Origin and Development*, 2nd ed. Diwan al-Matbuat al-Jami'iyah, Central Square Ben Aknoun Algeria;
8. Martinet, Andre (1916), *The Function and Dynamics of Languages*, Translated by Nadir Siraj, 1st ed. Arab Select House, Beirut Lebanon;
9. Hassan, Tammam (1998), *The Arabic Language: Its Meaning and Structure*, 3rd ed, Alam al-Kutub;
10. Samisun, Geoffrey (1993), *Linguistic Schools: Development and Conflict* Translated by Ahmad Naim al-Karain, 1st ed. University Foundation for Studies, Beirut, Lebanon ;
11. Al-Nuaimi, Houssam Said (1998), *Research in Arabic Sounds*, 1st ed, General Cultural Affairs House "Afaq Arabiyyah." Baghdad, Iraq ;
12. Al-Hamzawi, Rashad (1987), *Modern Linguistic Terminology in the Arabic Language: An Arabic-Foreign and Foreign-Arabic*

- Lexicon*, The Tunisian House, The National Book Foundation. Algeria;
13. Abd al-Tawwab, Ramadan (1997), *Introduction to Linguistics and Methods of Linguistic Research*, 3rd ed. Al-Khanji Library, Cairo Egypt;
 14. Abd al-Tawwab, Ramadan (n.d.), *Syntactic Development of the Arabic Language*, Al-Samah Press Cairo ;
 15. Diraqi, Zubair (1990), *Lectures in Historical and General Linguistics*. [n.p.], University Publications Office, Algeria;
 16. Al-Rajhi, Sharaf al-Din (2007), *Principles of Modern Linguistics*, University Knowledge House, Cairo;
 17. Dabbah, Al-Tayyib (2002), *Principles of Structural Linguistics: A Semiological Analytical Study*, July ed Laghouat Algeria;
 18. Abd al-Jalil, Abd al-Qadir (2002), *Modern Linguistic*,. 1st ed. Dar al-Safa Publishing and Distribution, Amman;
 19. Abd al-Jalil, Abd al-Qadir (1997), *Linguistic Variations*, Safaa House. Amman;
 20. Al-Masdi, Abd al-Salam (1986), *Linguistics Through Texts*, 2nd ed The Tunisian House;
 21. Haj Salih, Abd al-Rahman (1971), *Introduction to Modern Linguistics*, Article in *Journal of Linguistics*, Centre for Scientific Research for the Promotion of the Arabic Language, Issue 2;
 22. Tulaimat, Ghazi Mukhtar (2007), *In Linguistics*. 3rd ed Talas House, Damascus;
 23. De Saussure, Ferdinand (1986), *Course in General Linguistics*, Translated by Yousuf Ghazi and Majid al-Nasr 1st ed The Algerian Establishment ;
 24. Heidchen, Klaus (2003), *Basic Issues in Linguistics*, Translated by Said Hassan Bahiri, Al-Mukhtar Foundation Cairo ;
 25. Bashar, Kamal (2000), *Phonetics* Gharib, Publishing House Cairo;
 26. Al-Khouli, Muhammad Ali (2009), *Linguistic Sounds*. Al-Falah House, Amman;
 27. Sulaiman, Nayif (1998), *Phonetic Morphology* [n.p.], Azminah Publishing House;