# Phonetic and Phonological Investigations of the Allophonic Variations of the Consonant /l/ in English and Arabic Using Praat Programme

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**Abstract**
The major interest of this research is to concentrate on the production of the /l/ sound in the English and Arabic languages and the allophones of this sound. This research also pays attention to the articulatory criteria of this sound in different phonetic environments of the word structures. The research shows the major and considerable contributions of the Ancient Arab linguists and their ideas about the phonetic properties of speech sounds with reference to the modern period descriptions. The allophonic variance in pronunciation of the speech sound is dominant feature in the languages of the world which are varied in the phonological environments and in testing their phonological structures. The phonological components are used to indicate the meaning of the words accurately. The phonological arrangements try to mention the fundamental variance at the phonetic side, the meaning of the same phonological structures can appear as extremely different of the phonetic styles. Hence, the conditions that languages permit numerous and different utterance for one phoneme are generally described as (The Allophonic Variant). The research contains Praat Programme figures which display the allophones of /l/ in the two languages.

**Keywords:** Phoneme, Allophone, Palatalized Clear [l], Velarized Dark [ɫ], Voiceless (Devoiced) [l̥], Dental [l̪].

## 1- Introduction

The lateral consonant needs a total occlusion in the vocal tract; hence the air is freed to pass through one space of the occlusion. The production of the consonant /l/ needs a full median occlusion in the mouth with a space of one or two directions which is insufficient to create friction, as in the case of the sound /l/. (Trask,1996:198).

The phoneme is a complete unit in any language, and the allophones are considered as the variant utterances for a single phoneme. Any phoneme has different positions of pronunciations. According to this conceptualization, the phoneme /l/ has many multiple allophones. (Duanmu, 2016: 7). The allophones are the variants of one phoneme, and the utterance of the allophone differs in the phonetic environment according to the position of the phoneme. The allophonic distinction for the phoneme is not parted or alone, because allophone does not convey or make any difference in meaning.

Phonetically speaking, in many situations, the allophonic variance can be completely obliged by the phonological situations where a specified segment exists. According to Sproat and Fujimura (1993: 292)this appearance is frequently and simply understood in the explanations of allophones and in many circumstances, the allophonic difference can be completely compelled in the phonological situations where the specified phoneme is pronounced. For instance, the English sound /l/ can be vocalized as a velar lateral [l] and it is described as (clear)or it can be velarized as [ɫ] which described as dark.

## 2- The Articulation of the Phoneme /l/ in English

In the English sound system, the /l/ consonant in the initial position of the word (law) /lɔ:/ [lɔ:] displays the lateral feature of articulation of this type, while the vowel /ɔ:/ is described as the central type. The relationship between the lateral and central airflow rationally applies to all the levels of stricture except that of total closure, and there is no escape of the oral airflow in any case. In English, the consonant sound /s/ in the word (seek) is a central fricative one and the sound /j/ in (year) is a central resonant one, and the sound [l] in (lead) is a lateral resonant. (Laver, 1994: 144).

In the production of /l/ sound in English, the soft palate is raised and the nasal passage is totally closed, the tip of the tongue generates a steady liaison with teeth-ridge and the oral

passage is also totally closed. In this time, the sides of the tongue lowered and the air which comes from the lungs goes along the sides of the tongue clearly and constantly, the vocal folds vibrate to produce the sound /l/. This sound is the only consonant which is described as lateral in the English language. (Al-Hattami, 2010:219)

According to Tench (2011: 47) in the production of the phoneme /l/, the sides of the tongue become down and at the same time the blade compresses against the alveolar ridge lets airflow goes through the side of the tongue without contact. Hence, it is generally pronounced [l] or [ɫ]. phoneticians and phonologists often differentiate between the two major types of /l/ in the English sound system. The clear [l] comes before vowels and the consonant /j/, but the dark [ɫ] comes before consonants except the consonant /j/ or at the final positions of the words. The two vocalizations never change the meanings in the English language, because they refer to one phoneme.

In producing the lateral sound /l/ there is relation between the tongue and the roof of the mouth, but only the main area of the tongue is responsible for this relation, and this relation is recognized as (mid-sagittal relation), so there is no relation for the rims of the tongue. Hence, the airflow is absolutely independent to go along the paths down the parts of the oral tract, this result is called lateral segment. In the English lateral /l/ the mid-sagittal approach is between the blade of the tongue and the alveolar ridge. (Davenport and Hannahs, 2020: 32).

## 3- Clear [l] and Dark [ɫ]

Roach (2002:85) mentions that velarization is a secondary articulation in which the contraction in the vocal tract is combined to the primary contraction which provides the consonant its place of articulation. The English dark [ɫ] is an allophone of the phoneme /l/ which is vocalized with its major contraction in the alveolar area, while the back of the tongue is raised as for the vowel /u/ generating a secondary contraction. The difference between clear [l] and dark [ɫ] is a special feature in RP (Received Pronunciation), this difference is commonly lost in the American English pronunciation because the American pronunciation shows the dark [ɫ] in all positions of the words. (Gussmann, 2002:11).

According to Roach (2009: 49) clear [l] and dark [ɫ] are two allophones of the same phoneme /l/ in complementary distribution, and many English speakers do not aware of the

variation between these two allophones. Another allophone of the phoneme /l/ is formed when the phoneme /l/ comes after /p/ or /k/ at the beginning of the stressed syllables, this allophone is described as devoiced /l̥/ and it is vocalized as a fricative one.

In the velarization of [l], there is the influence of retracting and lowering softly, the articulation of a previous front vowel sound, as in:

feel    /fiːl/      [fiːɫ]

fill     /fɪl/      [fɪɫ]

fell    /fel/      [feɫ]

canal   /kəˈnæl/   [ kəˈnæɫ]


In the case of   /iː/ + [ɫ] a middle glide between the vowel and [ɫ] is noticed many times, and the vowel /ɪ/ of /**eɪ**, **aɪ**, **ɔɪ**/ heads to be concise, as in:

pail    /peɪl/    [peɪɫ]

pile    /paɪl/    [paɪɫ]

oil    /ɔɪl/      [ɔɪɫ]


The vowel /uː/ before [ɫ] can be more monophthongal and closer to [u], as in:

tool      /tuːl /    [tuːɫ]

spool    /spuːl/    [spuːɫ]

stool    /stuːl/    [stuːɫ]

fool     /fuːl/    [fuːɫ]            (Gruttenden, 2014: 219)


The English consonant /l/ has two different vocalizations according to whether this consonant is pre-vocalic or post-vocalic, the two results are in a various allophone of /l/. In prevocalic /l/, as in (lead) or (sleep) the tip of the tongue is still low in the oral cavity and the airstream is turned over both rims of the tongue, the result is known as clear [l]. In the postvocalic placement of the words, the tip of the tongue becomes in a low position and the back of the tongue is approaching to reach the palate and the airstream moves over both rims of the tongue, so the result is known as dark [ɫ]. (Small, 2020: 147).
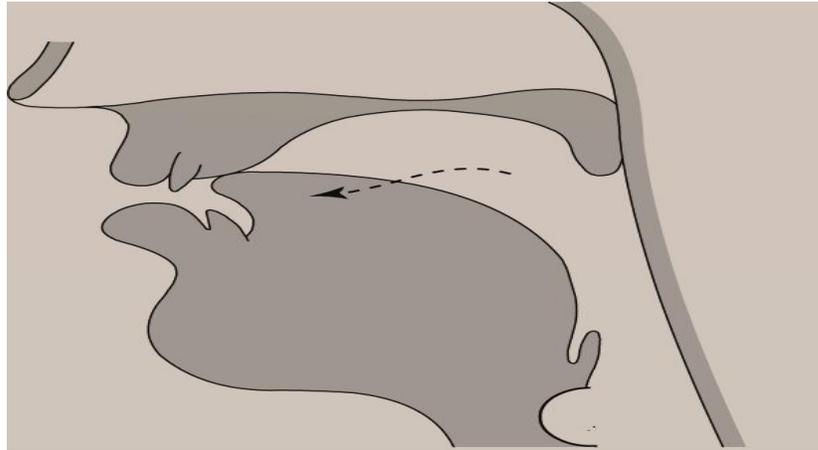
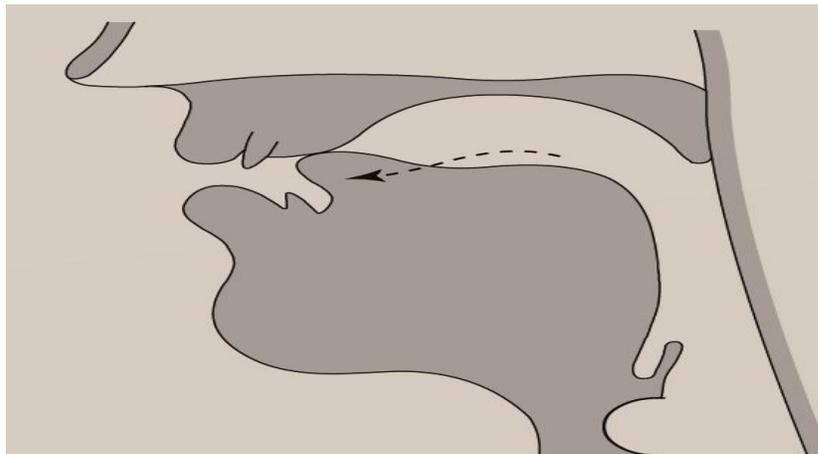Fig. (1) The Place of Articulation of Clear [l] in English

Fig. (2) The Place of Articulation of the Dark [ɫ] in English

**4- The Allophones of /l/ in English**

According to phonological point of view, many dialects of British English include a velarized lateral sound, and it is well- known as dark [ɫ] which is transcribed as [ɫ] which is pronounced with the raising of the back of the tongue towards the soft palate decreed on the primary alveolar lateral articulation, but the clear [l] is transcribed as [l] and it is pronounced without like secondary articulation. The uniqueness between dark and clear is a trait of RP accent. The allophones of the sound /l/ in English are:

**4.1 Palatalized Clear [l]**

This allophone is clear, and it is applied when the lateral /l/ is followed by        a vowel sound or the semi-vowel /j/, as in:

leap    /liːp/    [liːp]

loser   /luːzə/   [luːzə]

flutes   /fluːts/  [fluːts]

million   /ˈmɪljən/   [ˈmɪljən]

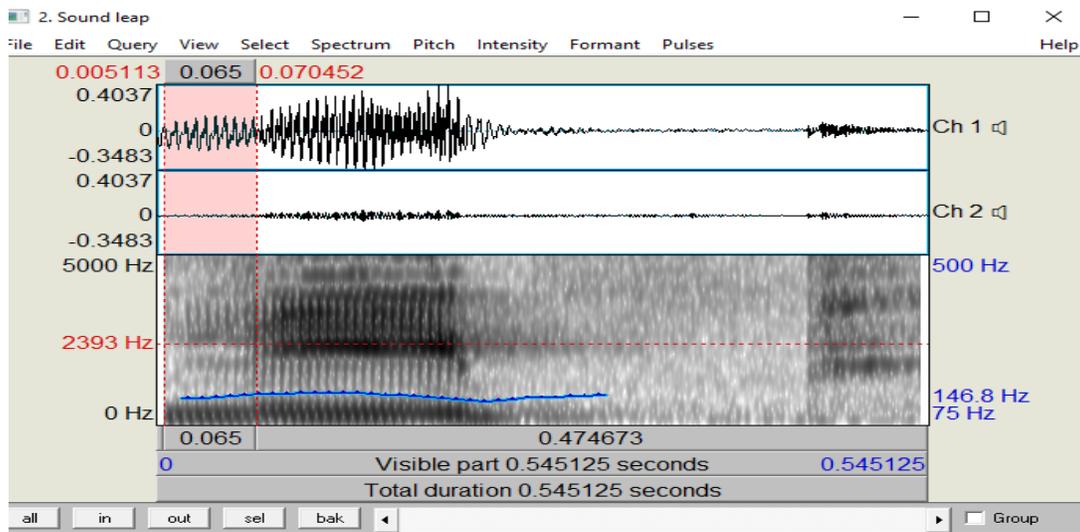evaluation /ɪˌvæljʊˈeɪʃən/  [ɪˌvæljʊˈeɪʃən]

value   /ˈvæljuː/ [ˈvæljuː]



Fig. (3) The Clear [l] in leap

In this allophone, the air goes through the rims of the tongue, and the blade of the tongue is in approaching the alveolar ridge, but the rest of the tongue is independent to form various styles, the front part of the tongue is raised in the identical style like the close front vowel [i], and this provides the sound /l/ like [i] vowel, and the production is the clear [l]. (Roach, 2002: 12).

**4.2 Velarized Dark [ɫ]**

This allophone is dark one, and it is used whenever the lateral /l/ occurs before a consonant sound except consonant /j/, or when it occurs in the final position of the words, as in:

seal   /siːl/    [siːɫ]

dell   /del/    [deɫ]

mall   /mɔːl/ [mɔːɫ]

fall   /fɔːl/   [fɔːɫ]

Al-Hattami (2010:292-93 and Sethi and Dhamija, 2010: 108 and Daniel, 2011: 2-3)
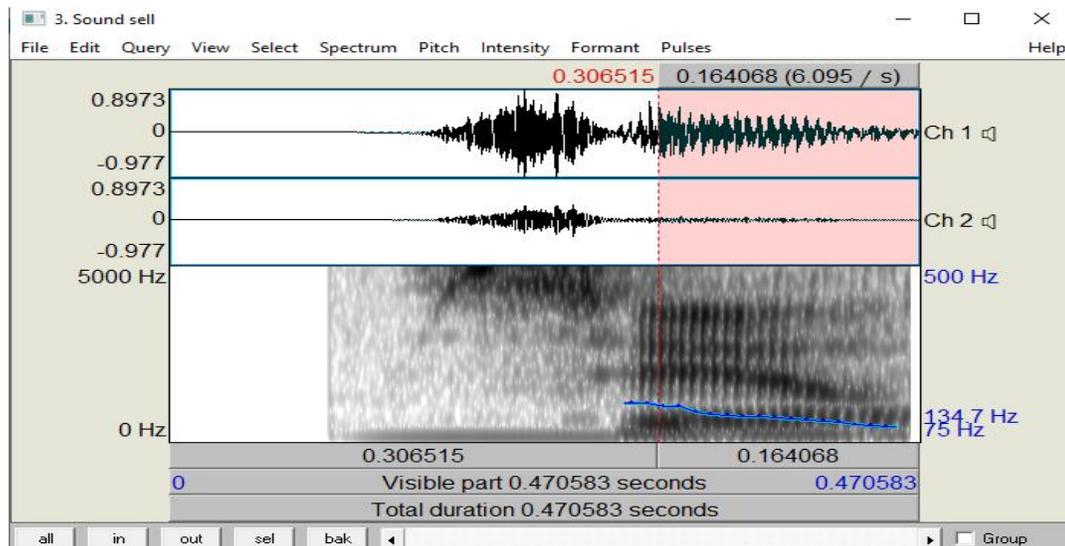


Fig. (4) The Dark [ɫ] in seal

## 4.3 Dental [l̪]

This allophone is recognized as a dental lateral allophone, when /l/ is succeeded by the interdental fricative phonemes /θ/ or /ð/, as in:

health       /helθ/      [hel̪θ]

healthy      /helθi/      [hel̪θi]

wealth       /welθ/      [wel̪θ]

wealthy      /ˈwelθi/    [ˈwel̪θi]

stealth/stelθ/    [stel̪θ]

stealthy     /ˈstelθi/    [ˈstel̪θi]

spilth /spɪlθ /    [spɪl̪θ]

tilth  /tɪlθ/  [tɪl̪θ]

although   /ɔːlˈðəʊ/ [ɔːl̪ˈðəʊ]

call them  /kɔːl ðem/ [kɔːl̪ ðem]     (Gut, 2009: 60 and Tench, 2011: 69)
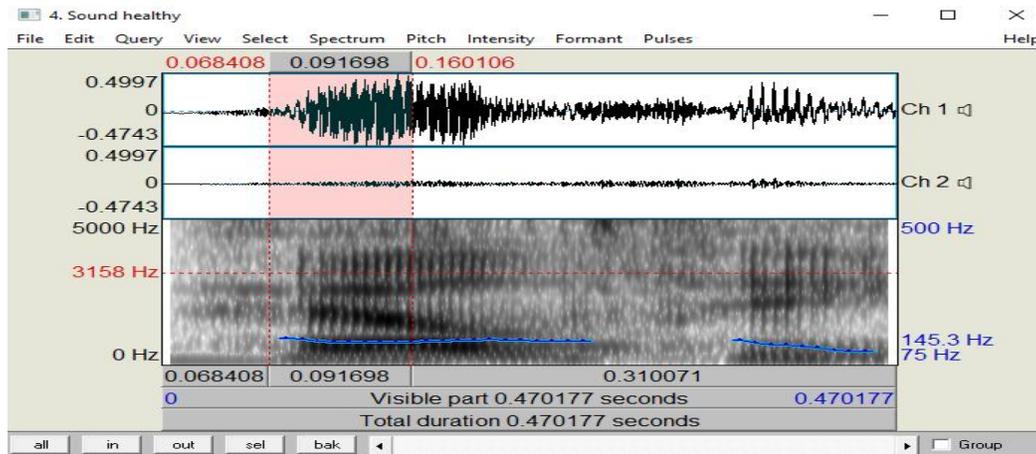
Fig. (5) Dental [l̪] in Healthy

## 4.4 Voiceless (Devoiced) [l̥] or [l̥͡l]

The sound /l/ is a voiced sound, it is created by the vibration in the vocal folds, sometimes it becomes voiceless sound when it occurs after aspirated voiceless plosive /p, k/. In the case of the sequence of voiceless plosives with lateral /l/ the friction does not have a special diacritic, so a compound diacritic is chosen from the lateral /l/ with a diacritic of voicelessness, hence, the voiceless /l/ is mentioned as [l̥] or [l̥͡l]. (Odgen, 2009: 83-84)

e.g.  plan / plæn/ [ pʰl̥æn ]

e.g.  pleasure  /ˈpleʒə/ [ˈpʰl̥eʒə]

e.g.  place / pleɪs / [pʰl̥eɪs]

e.g.  pleasant / ˈpleznt / [ˈpʰl̥eznt]

e.g.  platform / ˈplætfɔːm / [ˈpʰl̥ætfɔːm]

e.g.  apply /əˈplaɪ/ [əˈpʰl̥aɪ]

e.g.  clean  /kliːn/ [kʰl̥iːn]

e.g.  clay / kleɪ/ [kʰl̥eɪ]

e.g.  climb / klaɪm / [kʰl̥aɪm]

e.g.  classic /ˈklæsɪk / [ˈkʰl̥æsɪk]

e.g.  click /klɪk/ [kʰl̥ɪk]

e.g.  clarity /ˈklærɪti/ [ˈkʰl̥ærɪti]

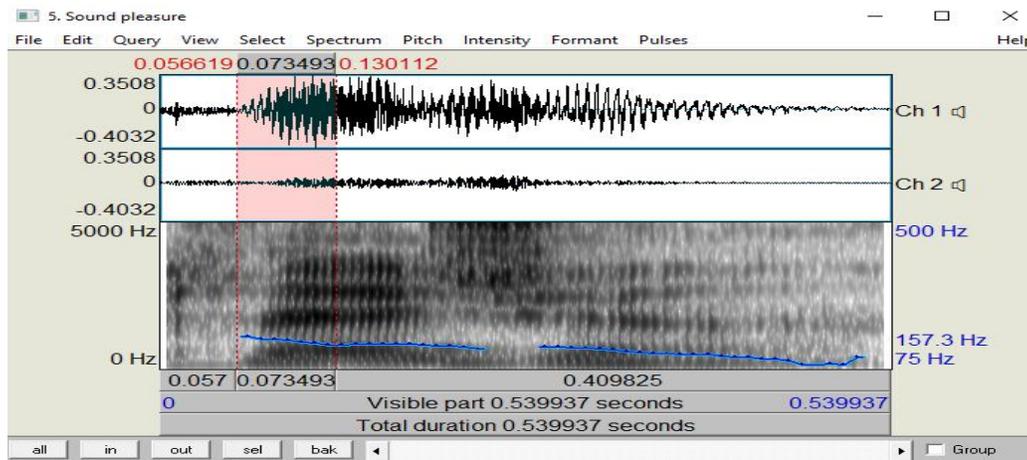We can notice that the sound /t/ does not occur before /l/ in the word-initial position in the English language.

Fig. (6) Voiceless [l̥] in Pleasure

### 4.5 Slightly Voiceless [l̦]

According to Sethi and Dhamija (2010: 108) this allophone is slightly devoiced when it occurs after unaspirated /p, k/ or limited voiceless sounds, such as: /ʃ, s, f, θ/ as in:

e.g. plantation  /plænˈteɪʃən/  [pl̦ænˈteɪʃən]

e.g. placenta  /pləˈsentə/ [pl̦əˈsentə]

e.g. clandestinely /klænˈdestɪnli/  [kl̦ænˈdestɪnli]

e.g. climatic /klaɪˈmætɪk **/ [**kl̦aɪˈmætɪk **]**

e.g. brushless / ˈbrʌʃləs **/ [**ˈbrʌʃl̦əs **]**

e.g. slated / ˈsleɪtɪd **/ [**ˈsl̦eɪtɪd **]**

e.g. fleet /fliːt /  [fl̦iːt ]

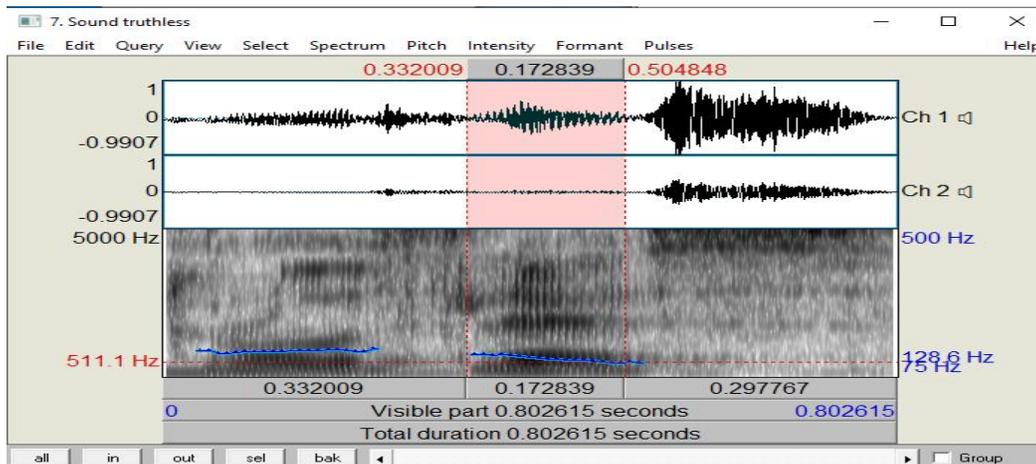e.g. truthless / ˈtruːθlɪs/ [ˈtruːθl̦ɪs**]**



Fig. (7) Slightly Voiceless [l̦] in Truthless

### 4.6 The Syllabic [l̩]

This allophone is a syllabic one. The lateral /l/ becomes syllabic at the final positions of the words when it occurs after a consonant, this refers to the truth that the lateral is a syllabic consonant not after fricatives and stops only, it is also syllabic often with nasals, as in:

e.g. Whistle  /ˈwɪsl/    [ˈwɪsl̩]

e.g. Paddle   /ˈpædl/   [ˈpædl̩]

e.g. Kennel  /ˈkenl/    [ˈkenl̩]

e.g. Channel  /ˈʧænl/  [ˈʧænl̩]

The sound /l/ becomes syllabic in many words when it follows homorganic sounds, as in:

e.g. bottle    /ˈbɒtəl/  [ˈbɒtl̩]

e.g. kettle    /ˈketəl/   [ˈketl̩]

e.g. settle    /ˈsetəl/   [ˈsetl̩]

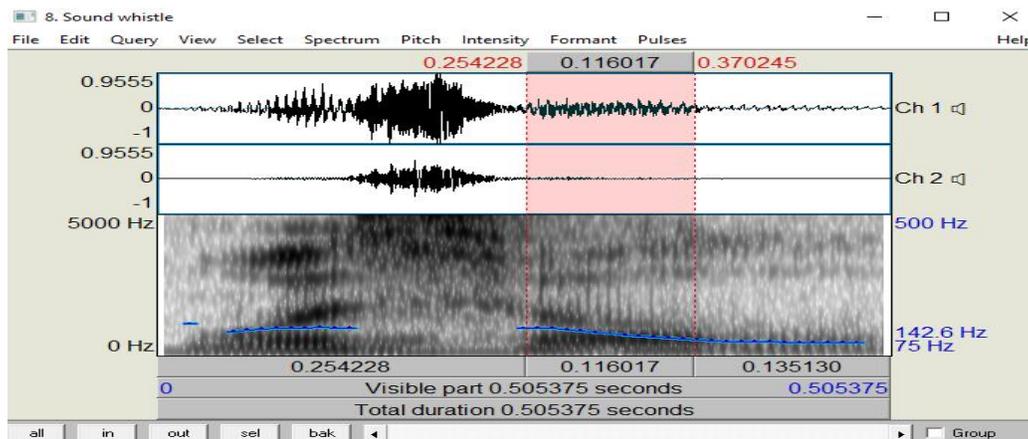e.g. shackle   /ˈʃækəl/  [ˈʃækəl̩]
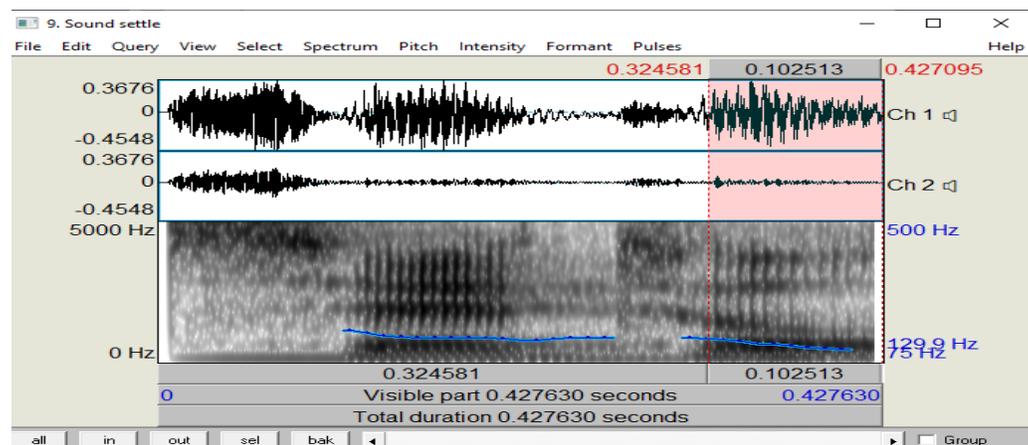


Fig. (8) The Syllabic [l̩] in Whistle

Fig. (9) The Syllabic [ɫ̩]  in Settle

Another difficulty happens when /l/ occurs after /r/, it is valid when such words, as: (barrel) /ˈbærəl/ [ˈbærɫ̩], but it does not occur in other forms of the American English, as in (snarl) /snɑːrl/ [snɑːrl], because /r/ here is regarded as a part of the vowel. (Ladefoged and Johnson, 2006: 78).

The dark [ɫ] appears to guide an extra syllable when it comes after the long vowels /iː, uː/ and the diphthongs /eɪ, aɪ, ɔɪ, əʊ, aʊ/. The tongue finishes the vowel vocalization in a high or close shape, the tongue requires for regulating the back of the tongue for the dark [ɫ] and this regulation looks like the sound /ə/ and it is recognized as (breaking). (Tench, 2011: 47).

In many words, the post-vocalic /l/ is a syllabic one. The syllabic consonant performs as the nucleus of the syllable, for instance, in nasal consonants, as in:

rotten   /rɒtn/     [rɒtn̩]

Small (2020: 147) elucidates that the lateral consonant is not like syllabic nasals, and the syllabic is not accompanied the homorganic consonant to be syllabic.

bottled     /ˈbɒtləd/     [ˈbɒtɫ̩d]

cardinal   /ˈkɑːdɪnəl/   [ˈkɑːdɪnɫ̩]

Syllabic [ɫ̩] is always a dark[ɫ].

## 5-The Lateralization of /l/ with Plosives

The plosion of /l/ occurs when the compressed airflow for the generating of a plosive segment is sent out by the lowering of the tongue sides before the lateral /l/. The plosive segment turns to be lateralized and this activity is known as Lateralization. Lateralization is mentioned with a vertical sigh [tˈ], as in:

e.g. plosive    /ˈpləʊsɪv/  [ˈpʰˈləʊsɪv ]

e.g. lightly    /ˈlaɪtli/    [ˈlaɪtˈli]            (Balčytytė-Kurtinienė, 2014: 48)

When /l/ sound comes before /t/ or /d/, it is reasonable to note that the /t/ and /d/ place to the /l/ place directly by lowering one or two sides of the tongue, this is the only distinction in the vocalization of the sounds, as in:

/tl/        atlas   /ˈætləs /  [ˈætˈləs]

           at least   /ət liːst /  [ət ˈliːst]

cutlass   /ˈkʌtləs/   [ˈkʌtʼləs]

butler    /ˈbʌtlə/    [ˈbʌtʼlə]

/dl/       badly     /ˈbædli/   [ˈbædʼli]

hard luck   /ˈhɑːd lʌk/   [ˈhɑːd ʼlʌk]

sadly   /ˈsædli/   [ˈsædʼli]

fiddler   /ˈfɪdlə/  [ˈfɪdʼlə]

(Brinton, 2000: 32 and Carley and et.al., 2018: 21)

## 6- Escape of /l/

In the case of the /l/ sound occurs after the bilabial segments /p, b/ and the alveolar segments /k, g/ a lateral scape appears. This signifies that the tip of the tongue approaches for the sound /l/ is in situation within the hold stage of the bilabial and velar plosives, the restricted air in the vocal tract goes around the one side or two sides of this occlusion, as in:

/pl/    implying  /ɪmˈplaɪɪŋ/ [ɪmˈpʼlaɪɪŋ]

/bl/    republic   /rɪˈpʌblɪk/ [rɪˈpʌbʼlɪk]

/kl/    establish  /ɪsˈtæblɪʃ/ [ɪsˈtæbʼlɪʃ ]

/gl/    dangling  /ˈdæŋglɪŋ/ [ˈdæŋgʼlɪŋ]                (Carley and et.al., 2018: 21)

## 7- The Reduction of /l/

The reduced /l/ is observed in present-day English specifically in unstressed syllables and it is documented in various periods of the historical evolutions of the English language, for instance:

walk     /wɔːk / [wɔːk]

half     /hɑːf/ [hɑːf]

almond   /ˈɑːmənd/ [ˈɑːmənd]

folk     /fəʊk/ [fəʊk]

would    /wʊd/ [wʊd]

could    /kʊd/ [kʊd]

should   /ʃʊd/ [ʃʊd]

talk     /tɔːk/ [tɔːk]

calf      /kɑːf/ [kɑːf]

chalk    /ʧɔːk / [ʧɔːk]

calm     /kɑːm / [kɑːm]

palm     /pɑːm/ [pɑːm]

psalm   /sɑːm/ [sɑːm]

The words above fundamentally had an uttered /l/ because of the /l/ is in the orthography form which is then reduced because of the preceding back vowel segment. The vocalized /l/ appeared in many words before centuries ago, and this utterance is still found in the English language in this time, such words as: (talk, folk calm, …. etc.). It is possibly incorrect to characterize these words with the other types of pronunciations in the British English today. The consonant /l/ is totally omitted and the vowel receives the prolongation.  (Brown, 1991: 93 and Turton, 2014: 28).

**Table (1). The Distinctive Features of the English /l/**

| Features | |
|---|---|
| Syllabic | ± |
| Consonantal | + |
| Sonorant | + |
| Voiced | + |
| Continuant | + |
| Nasal | - |
| Strident | - |
| Lateral | + |
| Distributed | - |
| Affricate | - |
| Labial | - |
| Round | - |
| Coronal | + |
| Anterior | + |

| High | - |
|------|---|
| Back | - |
| Low  | - |

**(Akmajian and et.al., 2010:115)**

**The Phoneme /l/ in Arabic**

**8- Literature Review**

In the beginning, The Arab linguists were not focused on phonetics topics, but they characterize number of allophones of the phonemes which are reasonable variants. The phonetic and phonological studies have been main targets for hundred decades, the cornerstone in these fields came from the grammar studies.

The religious readings affect in the development of the Arabic phonetical studies, the learning and teaching of the Glorious Qur'an had led to many influences on the Arabic phonetics and phonology. The phonetic interest in the Arabic language is a paramount aspect in the study of the Arabic language. The Arab linguists explored phonetics very well and they emerged it with phonology and the concentrations on the phonetic studies are continued peripheral, then the phonetic and phonological investigations are developed progressively. (Danecki, 1978: 51)

**8.1 Al-Khalil bin Ahmed Al-Farahihi (100-170 A.H. 718-786 A.D.)**

Al-Farahidi's classification is the first and chief technique in the Arabic phonetics and phonology, he depicts the Arabic sounds according to the Arabic lexicon, Al-Farahidi begins his categorization of the sounds with a suitable style in his book "Al-ʕayn" (Dictionary of the Letter ʕayn). "كتاب العين". Al-Farahidi's classification is originally a dual one, and he describes the Arabic sounds as:

- Consonants vs. Vowels

- Steady vs. Unsteady

- Resonant vs. Resonant

Al-Farahidi indicates that the phoneme /l/ is a liquid one, and this term is not mentioned in the next descriptions by the Arab grammarians and phoneticians. (Danecki, 1978; 54 and Ad-Duri, 1998, 90).

**8.2 Abu BishrAmro bin Othman Sibawayhi (148-180 A.H. 753-793 A.D.)**

Sibawayhi is Al-Farahidi's pupil, and Sibawahi is regarded as one of the greatest influencers in the Arabic language, he refers to the allophones in Arabic and his classification for the consonants, vowels and other phonetic facts are accurate and perfect and they are identical to the modern facts in grammar, phonetics and phonology. Sibawayhi's influential grammar book "Al-Kitab" (The Book) "الكتاب", is considered as the foundation for the Arabic phonetic and phonological studies besides the grammatical studies.

Sibawahi classifies the Arabic consonant /l/ as the (Munħarif) consonant, and the term (Munħarif) means (turned or diverted). He also distinguishes this phoneme as one of the strong consonants. The description of what Sibawahi denotes by (Munħarif), he mentions that the tongue plays the basic role in producing this sound. Actually, Sibawahi prefers to present that the airstream swerves away from the main place of the body of the tongue. Another feature is limited to the consonant /l/ (laam) is strong one, and by strong consonant that means the articulators are in a complete approach with each one during the articulation of a strong consonant. Sibawahi is scrupulous in explaining the consonant /l/, and he mentions that the following phonetic features: strong, munħarif and continuant. In the Arabic language, the most usual examples of /l/ are in the clear /l/, and in many specific phonetic structures it becomes as dark [ḷ]. Sibawahi does not explain anything about the relationship between the dark and clear /l/, because there is no phonetic disparity between them in the standard Arabic language. (Al-Nassir, 1985: 90-93).

**8.3 Abul- Fatħ Othman Ibn Jinni (322-392 A.H. 933-1002 A.D.)**

Ibn Jinni is one of the prominent and known linguist, grammarian and phonetician in the Arab world. The focus of Ibn Jinni's contribution is devoted to grammar and phonetics, he confirms that the variation of the consonants in the word structure and this will show the change in the meaning of the word.

Ibn Jinni discovers that particular word structures obviously present a type of normal relationships between phonemes and concept. Ibn Jinni's classification of sounds, he accepts the reality that the vocal folds may create endless numbers of sounds, and he confirms that the vocal folds can make different speech sounds in one language as an outcome of being pronounced in many different positions. Ibn Jinni also explains the speech sounds as a recognizable one along

with a pulmonic event and it remains as long as it goes on, Ibn Jinni adds that when the airflow is blocked in the larynx, the mouth or lips, the phonemes, which are created, are recognized as "ħuruf" (Phonemes). (Bakalla, 1996: 314-315).

Ibn Jinni signifies that the Arabic phoneme /l/ is generated when the tongue approaches the hard palate, Ibn Jinni also refers that the dark [ɫ] and clear [l] are two allophones of the same phoneme /l/ in the Arabic sound system. (Ad-Aduri, 1998: 91)

**8.4 Abu Ali Al-Hussein bin Abdullah Ibn Sina (370-427 A.H. 980-1037 A.D.)**

Ibn Sina is also known as (Avicenna), he is considered as one of the most important thinkers and philosophers in the Islamic culture. He interested in different fields of sciences, such as: medicine, physics, astronomy, language, poetry, geography, psychology, mathematics, theology, chemistry. He was a prolific author, and he wrote many publications about the Islamic heritage.

According to Ibn Sina the production of the Arabic /l/ is influenced by the reduction of the air, and this air is weak, and this sound is generated at the elastic tip of the tongue and accompanied with a little emptying of air and the fundamental propulsion happens at the back part of the tongue when it approaches the area immediately above it, not by the tip of the tongue. The release air is not strong, because of if the released air is strong, it will become another sound. (Semaan, 1963: 45-46, 53-54).

**9-The Articulation of /l/ (Laam) in Arabic in Modern Period**

According to Gairdner (1925:17) the Arabic phoneme /l/ is produced when the tip of the tongue reaches the upper teeth and the sides of the tongue pressed around the teeth, at the same moment, the front of the tongue is raised to the hard palate, the airflow is obstructed in the center, the airflow goes on one or both rims of the tongue and the result is a lateral phoneme.

In the articulation of the phoneme /l/ in Arabic, the nasal cavity of air is totally closed because of the effect of the raising of the soft palate, and the tip of tongue is raised towards the alveolar ridge, the sides of the tongue are lowered allowing the air which comes from lung to go through the mouth freely and constantly. The vocal folds vibrate during this time. This sound is classified as: voiced, alveolar and lateral. The Arabic letter (ل) (laam) is used to perform this phoneme and it has two allophones in the Arabic language. (Huthaily, 2003:55).

Al-Hattami (2010: 330) states that in the creating of the Arabic consonant /l/, the velum is raised and the nasal cavity is totally blocked, the tip of the tongue creates a constant link between the teeth and the airflow in the oral cavity, the rims of the tongue are lowered and the airflow goes along with the rims of the tongue.

## 10- The Allophones of /l/ in Arabic

The phoneme /l/ in the Arabic sound system has two allophones, and the body of the tongue performs the significant aspect in the vocalization of the lateral phoneme /l/.

## 10.1The Dark Allophone (Emphasized) [ɫ]

This allophone is also known as (ʔalmufaxam) dark, in this allophone, the back of the tongue approaches to the velum. The dark [ɫ] is classified as pharyngealized, post-dental and lateral segment., it is found next to /a/ and /aa/, and it is only occurred in the Arabic word (ALLAH) /ˈʔaɫɫaːh / [ˈʔaɫɫaːh] God.
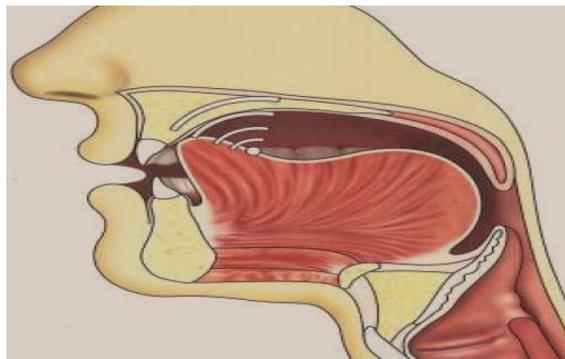


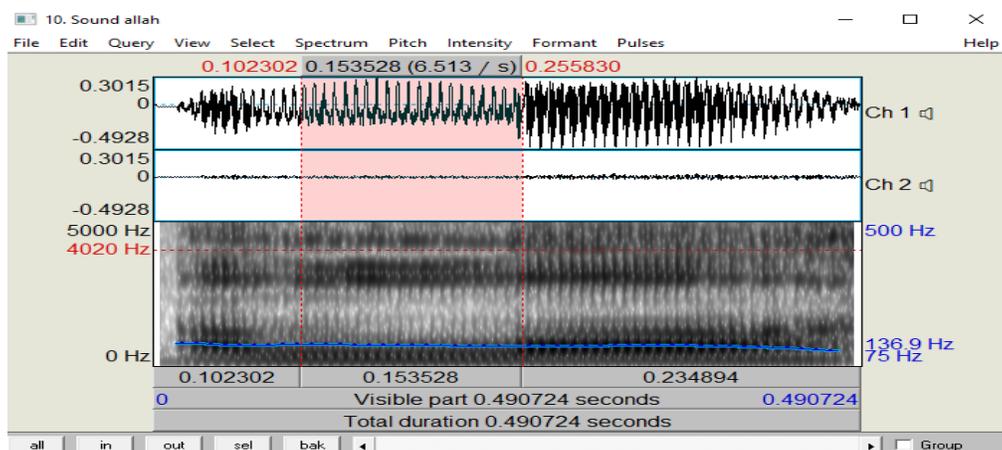Fig. (10) The Place of Articulation of the Dark [ɫ] in Arabic



Fig. (11) The Dark [ɫ] in Allah   (الله)

**10.2 Voiced alveolar, Lateral [l]**

In the Arabic language, this phoneme /l/ occurs in: initial, medial and final positions in the phonetic environments of the words, as in:

e.g. laħn    /ləħn/    [ləħn]         Melody

e.g. qaleel  /q̱əli:l/  [q̱əli:l]        Little

e.g. naħal   /nəħəl/   [nəħəl]        Bees

e.g. ʕasal   /ʕəsəl /  [ʕəsəl]        Honey         (Huthaily, 2003: 55)

It is also known as (ʔalmuraqaq) clear, in producing this allophone, the centre part of the tongue approaches to the hard palate, as in:

e.g. ħaleem /ħəli:m/ [ħəli:m] meek

e.g. ħaleef /ħəli:f/   [ħəli:f] allied

Also, there is an exception, when the vowel /i/ is the first vowel, as in:

e.g. lillah/lila:h/[lila:h] to God "The phoneme /l/ here is clear not dark".
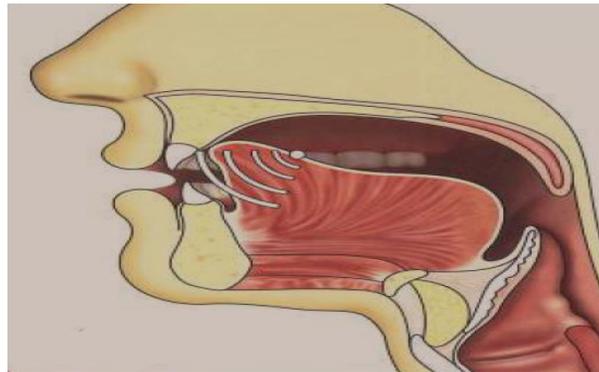


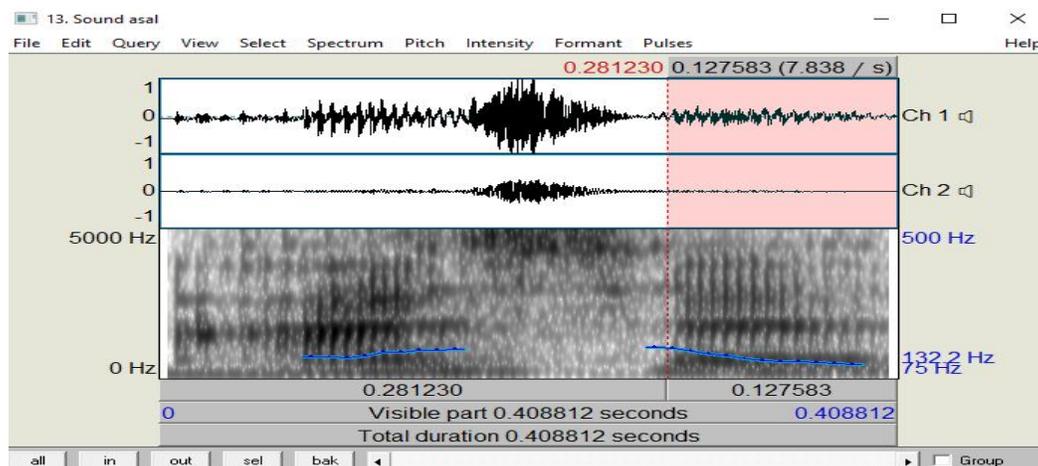Fig. (12) The Place of Articulation of the Clear [l] in Arabic
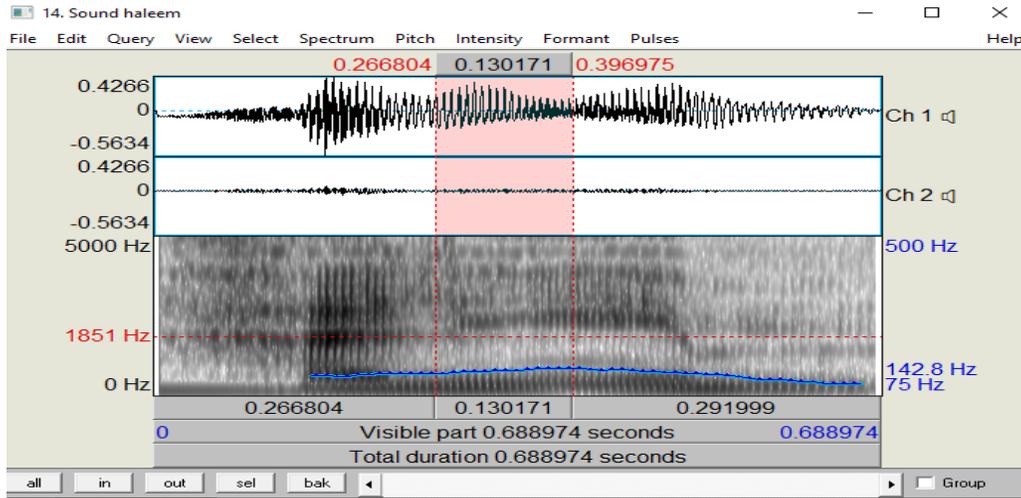
Fig. (13) The Clear [l] In ʕasal(عسل) (Honey)
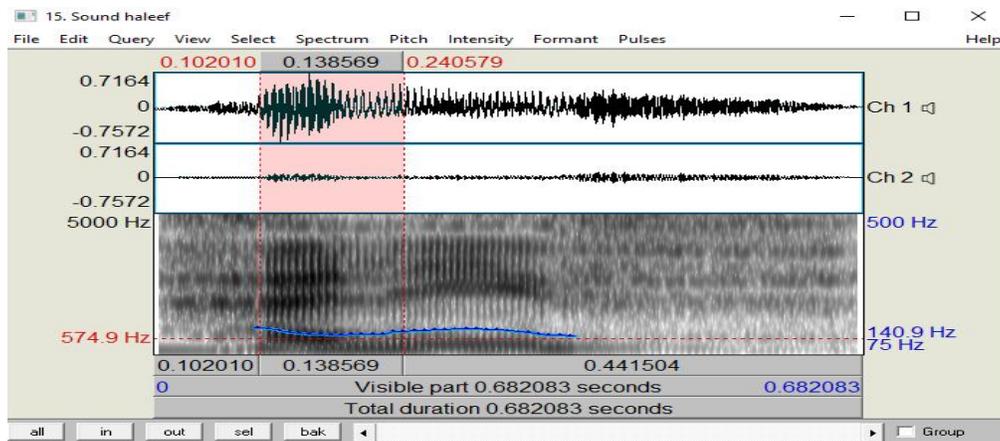


Fig. (14) The Clear [l] in ħaleem (حليم) (meek)
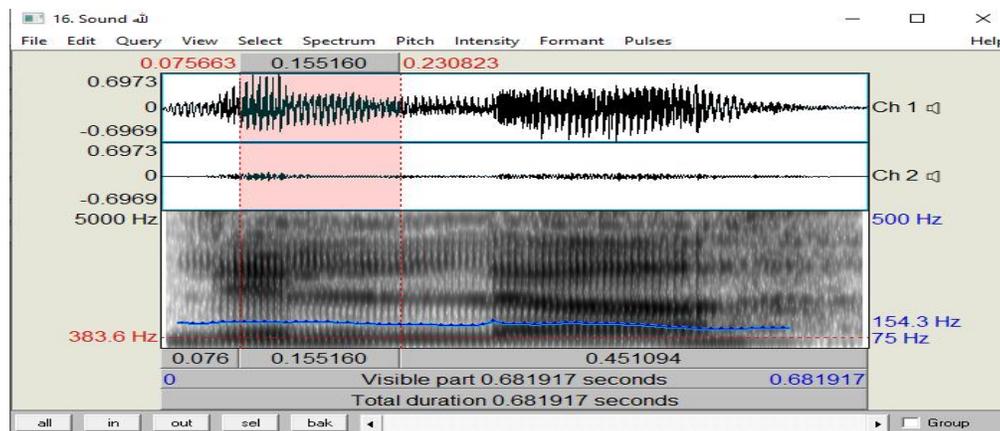


Fig. (15) The Clear [l] in ħaleef (حليف) (Allied)

Fig. (16) The Clear [l] in Lillah(لله)

Another case, when the sound /l/ is influenced by the adjacent velar consonants, as in:

Ṭalab  /ṭələb/   [ṭələb] request

Here, the/ṭ//ط/affects on the three adjacent phonemes and changes the clear /l/ into dark /ɬ/.
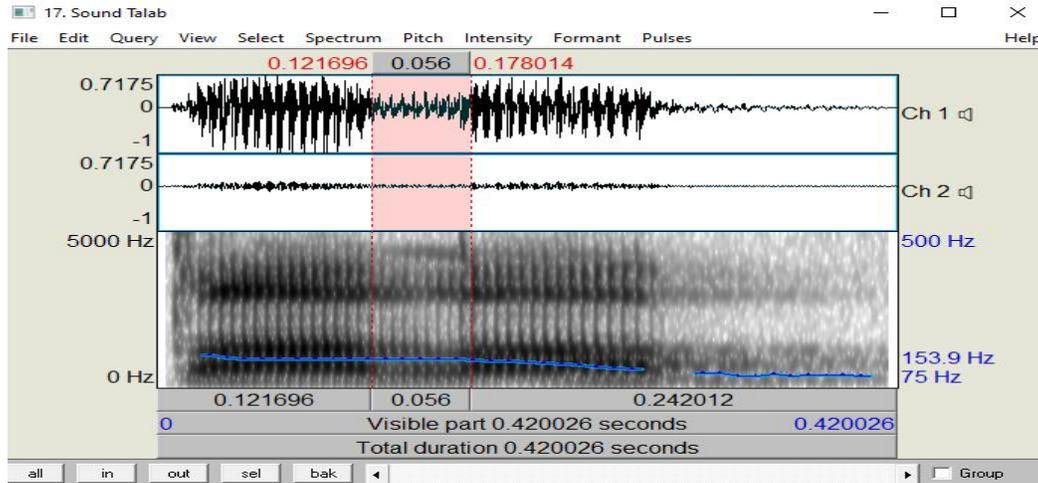


Fig. (17). The Clear [l] in Ṭalab(طلب)(Request)

Actually, there are many minimal pairs occur in the standard Arabic language which are included the word (Allah) and another word of the same phonological form but has another meaning, as in:

e.g. Wallaahu   /wælla:hu/ [wælla:hu] and God

e.g. Wallaahu  / wælla:hu/  [wælla:hu]  (someone appointed him the duty).

Other pairs are ideal pairs, for example:

e.g. Wallaahi/wællahi:/ [wælɬhi:]by God

e.g. Wallaahii/wæla:hi/  [wæla:hi:]  fiddler (fun person)  (Ferguson, 1956: 107-108, Al-Ani, 1970: 48 and Al-Bamerni, 1978: 18)

The phoneme /l/ in the Arabic language is commonly understood and known as fronted one (clear /l/). This sound is fronted and palatalized. In many limited situations, it is vocalized farther back in the articulatory apparatus with a raised tongue as a dark /ɬ/. (Ryding, 2014: 18).
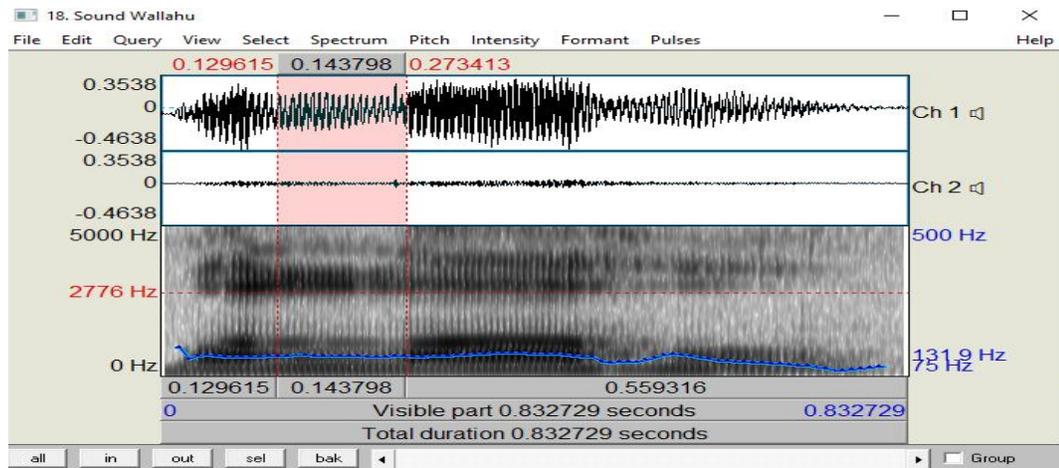
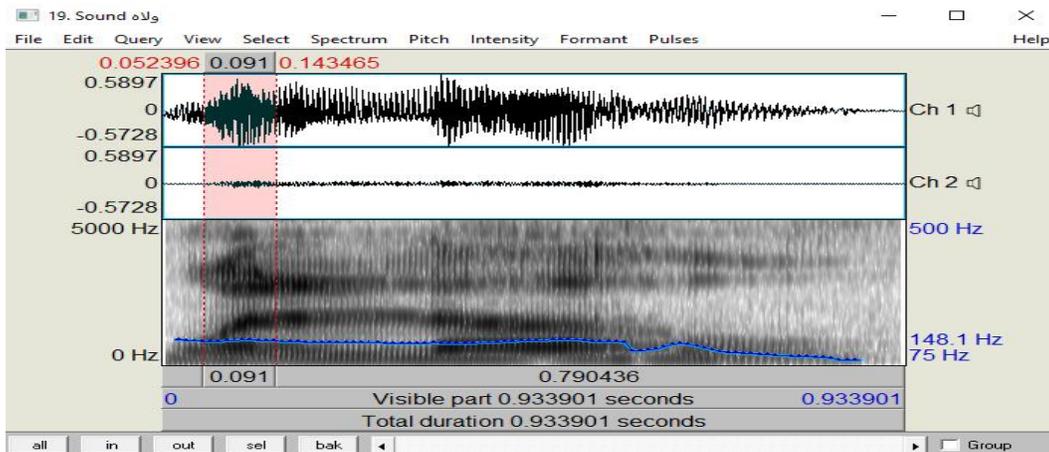Fig. (18) The dark [l] in Wallahu[wæ**ll**a:hu] واللهُ

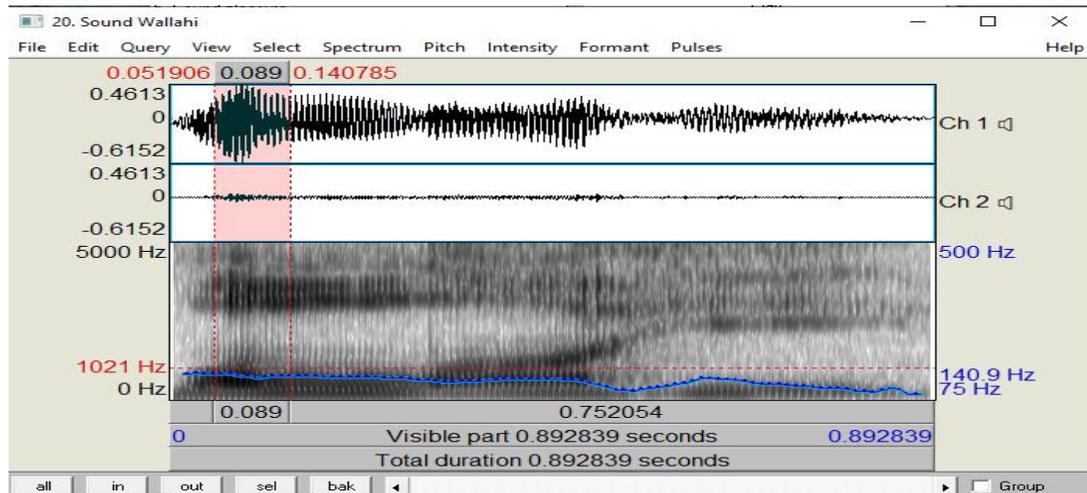Fig. (19) The Clear [l] in Wallaahu [wælla:hu] (ولاة)

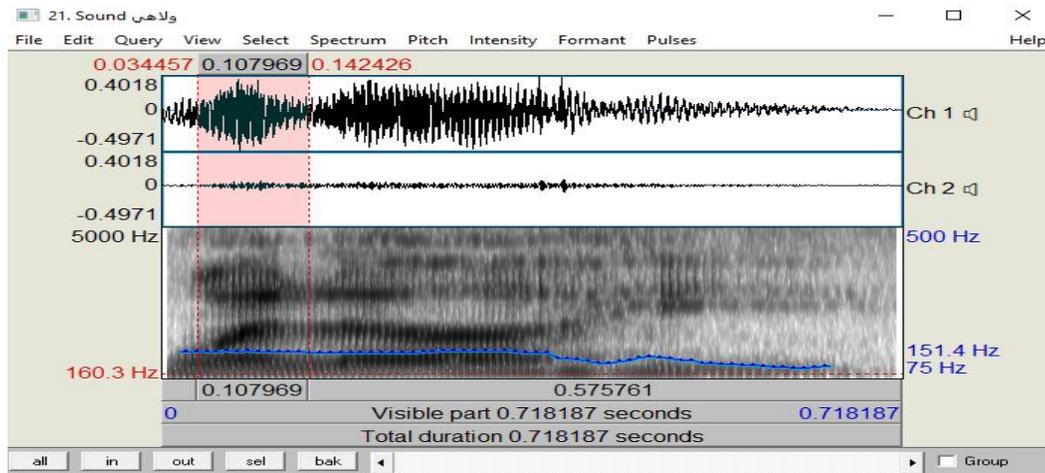Fig. (20) The Dark [l]Wallahi[wæ**ll**hi:] واللهِ

Fig. (21) The Clear [l] in Wallaahii[wæla:hi:] ولاه

## 11. The Assimilation of /l/ in Arabic

The assimilation of /l/ with the definite article to the first segment when the word begins with a "sun letter" (harfshamsi) as in:

e.g. al-najoom      /an-naju:m/    [an-nau:m]       The Stars

e.g. al-nawras     /an-nawras/     [an-nawras]      The Seagull

e.g. al-thoom       /aθ-θu:m/      [aθ-θu:m]        The Garlic

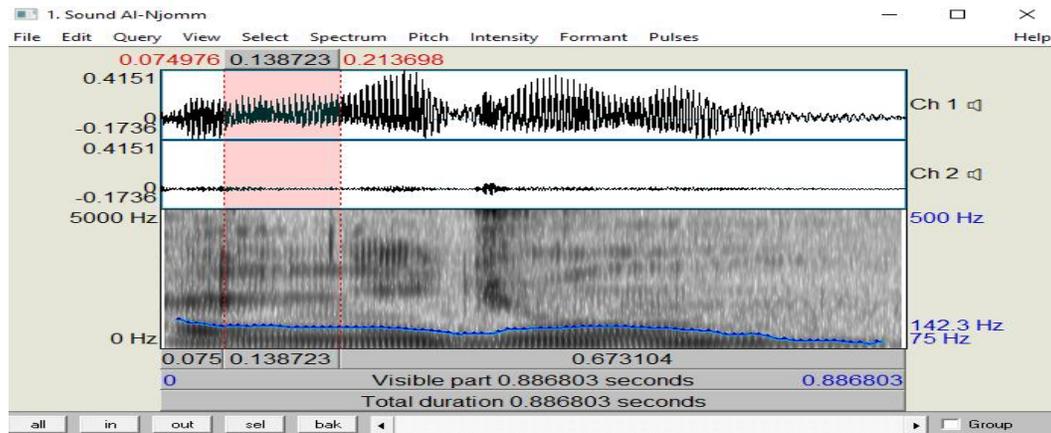e.g. al-dub         /ad-dub/       [ad-dub]         The Bear



Fig. (22) The assimilation of /l/ in An-njoom /an-naju:m/   [an-nau:m]  The Stars
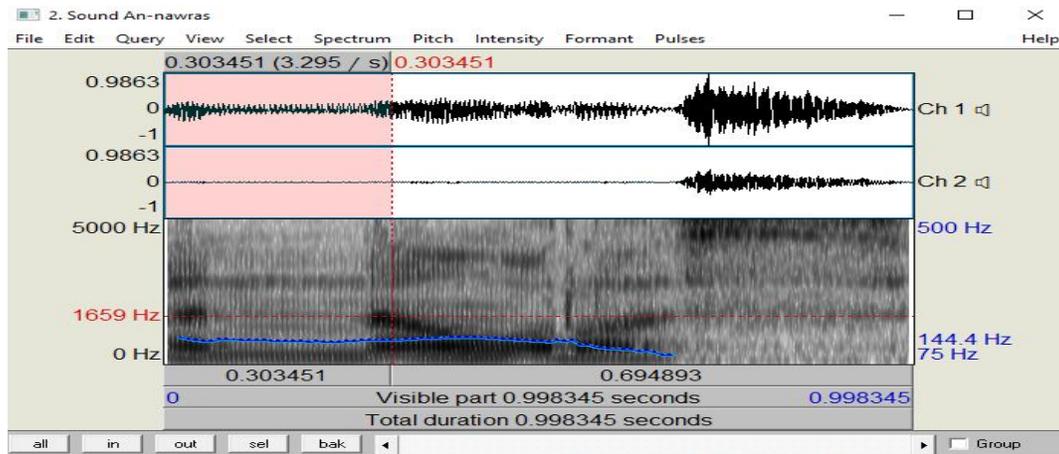
Fig. (23) The assimilation of /l/ in An-nawras /an-nawras/ [an-nawras] The Seagull

This type of assimilation comes in the condition of what are called "sun letters" in the Arabic alphabet, and I is significant to know that the sound /l/ (laam) of the definite article is still in the spelling of such structures, but the initial sound in the structure is repeated in the utterance, as in:

e.g. al-sharab/əʃ- ʃrab/ [əʃ-ʃra:b]   The Syrup

e.g. al-zaytoon/əz-zeɪtu:n/   [əz-zeɪtu:n] The Olive

e.g. al-samaa'     /əs-səma:/     [əs-səma:]  The Sky

e.g. al-zamaan    /əz-zəma:n/    [əz-zəma:n]  The Time
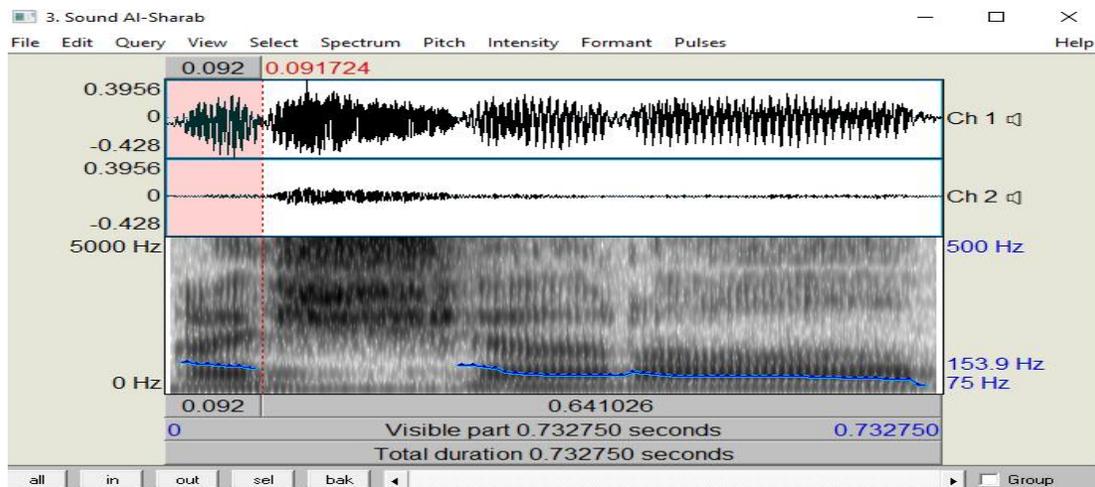
(Ryding, 2014: 25)



Fig. (24) The Assimilation of /l/ in Ash-sharab /əʃ- ʃrab/  [əʃ-ʃra:b]  The Syrup

**11.1- The Progressive Assimilation of /l/ in Arabic**

The regressive assimilation is the outcome of the effect of the following segment on the previous segment. The commonest appearance of this assimilation is the assimilation with /l/ of the definite article in Arabic(al-) to the sound of the first phoneme in a structure word. (ibid). The /l/ in the definite article (al-) may have many areas of allophonic styles because of the reality that "sun letters" assimilates it and shifts its vocalization, as in:

e.g. al-thayl       /əð-ðeɪl/   [əð-ðeɪl]          The Tail

e.g. al-Thakaa'    /əð-ðəka:/  [əð-ðəka:]         The Intelligence

e.g. al-thakira     /əð-ðəkira:/  [əð-ðəkira:]    The Memory

e.g. al-thiqin      /əð-ðq̱in/   [əð-ðq̱in]          The Chin(Ryding, 2014:48)

**Table (2) The Distinctive Features of the Arabic Sound /l/**

| Features | |
|---|---|
| **Consonantal** | + |
| **Vocalic** | - |
| **Continuant** | + |
| **Voiced** | + |
| **Sonorant** | + |
| **Nasal** | - |
| **Lateral** | + |
| **Emphatic** | ± |
| **Qalqalah** | - |
| **Sibilant** | - |
| **Hushing** | - |
| **Anterior** | + |
| **Coronal** | + |
| **Tense** | - |
| **High** | - |
| **Low** | - |

| Back | - |
|------|---|
| Round | - |
| Long | - |

**(Al-Fozan, 1989: 41)**

## 12. Conclusions

In this research, the researchersdiscuss the allophones of the sound /l/ in the English and Arabic sound systems, the research sheds light on the following conclusions:

1- The people who pronounce the dark [ɫ] should know that they will face major hardness in vocalizing the allophone clear [l], when it occurs in final positions or when it occurs before consonants.

2- The clear [l] and dark [ɫ] vocalizations appear in Arabic and English sound systems, but the dark [l̴] in Arabic is limited in words, as in the word (Allah) /ˈʔalla:h / [ˈʔalla:h] (God), for this reason a familiar misconception is made by Arab scholars in producing the lateral /l/ which is the excessive usage of the clear [l] in the Arabic sound system which is found in initial, medial and final positions of the words, but the English clear [l] is found in the initial and medial positions only, and the English dark [ɫ] is found in final positions and before consonant sounds.

3- This research gives explanations for the allophonic variants of the sound /l/ in English and Arabic and how these allophonic variants are different according to the phonetic environments and transcriptions.

4- The researcher uses the Praat Programme to clarify the accurate positions and picturesof the English and Arabic allophonic variants of the consonant /l/ in the Arabic and English languages with examples.

5- It is important knowledge to understand the difference between the abstract phoneme and the allophones in the production of speech sounds.

6- Teachers and students of English and Arabic should know the correct pronunciations of each allophone separately.

7- Phonemes can be distinguished by their utterances, but allophones may contain insubstantial utterances depending on the place of articulation.

8- This research also concentrates on the most influential Arab linguists who wrotetheir phoneticideas at the beginning of studying this field of linguistics.

**References**

- Ad-Duri, E. S. (1998). "A Semantico Study of Tonality: A Contrastive Study". (Unpublished) Ph. D.  Dissertation. University of Baghdad.

-Akmajian, A., Demers, R. A., Farmer, A. K., and Harnish, R. M. (2010).                An Introduction to Language and Communication. (6th ed.). London: The MIT Press.

-  Al-Ani, S. (1970). Arabic Phonology. Mouton, The Hague.

- Al-Bamerni, A.H. (1978). "Lateral in English, Arabic and Kurdish". Adab          Al-Rafidayn Journal, College of Arts, University of Mosul.

- Al-Fozan, Abdulrahman Ibrahim. (1989). "Assimilation in Classical Arabic:        A Phonological Study". (Ph.D. dissertation), Glasgow: University of Glasgow.

-Al-Hattami, A. A. (2010). A Phonetic and Phonological Study of the Consonants of English and Arabic. Language in India.

-   Al-Nassir, A. A. (1985). Sibawayh the Phonologist: A Critical Study of the Phonetic and Phonological Theory of Sibawayh as presented in his Treatise Al-Kitab. London: Kegan Paul International.

- Bakalla, M. H. (1996). Ibn Jinni's Contribution to Linguistics and Phonetics. Proceedings of the KSPS Conference. pp. 314-319.

- Balčytytė-Kurtinienė, Giedrė. (2014) A Course in English Phonetics for EFL University Students. Vilniaus universitetas.

- Brinton, Laurel J. (2000). The Structure of Modern English. A Linguistic Introduction. Amsterdam: John Benjamins.

- Brown, A. (1991). Pronunciation Models. Singapore. Singapore University Press.

- Carley, P., Mees, I. M. and Collins, B. (2018). English Phonetics and Pronunciation Practice. Abingdon: Routledge.

- Cruttenden, A. (2014). Gimson's Pronunciation of English. New York: Routledge.

-Daniel, I. O. (2011). Introductory Phonetics and Phonology of English. Newcastle Upon Tyne: Cambridge Scholars Publishing.

- Denecki, Janusz. (1978). "Early Arabic Phonetical Theory . Phonetics of Al - HalilIbn Ahmad and Sibawayhi." RocznicOrientalistyczny, 39.

-Duanmu, San. (2016). A Theory of Phonological Features. Oxford: Oxford University Press.

- Ferguson, Charles A. (1956). "The Emphatic /l/ in Arabic" Language, 32: 3.446-452.

- Gairdner, W.H. T. (1925). The Phonetics of Arabic. London: Oxford University Press.

- Gussmann, Edmund. (2002). Phonology. Cambridge: Cambridge University Press.

- Gut, Ulrike. (2009). Introduction to English Phonetics and Phonology. Frankfurt/Main: Lang.

- Huthaily, K. (2003). Contrastive Phonological Analysis of Arabic and English. [Unpublished
     Master's thesis]. The University of Montana, MT. https://scholarworks.umt.edu/etd/8110.

- Ladefoged, P. and Jonson, K. (2006). A Course in Phonetics. (5<sup>th</sup> ed.). Boston, MA: Thomson
     Wadsworth.

- Laver, J. (1994) Principles of Phonetics. Cambridge: Cambridge University Press.

- Michael Davenport and S. J. Hannahs (2020) Introducing Phonetics and Phonology. (4<sup>th</sup> ed.).
     Tylor & Francis Group. Routledge.

- Ogden, Richard. 2009. An Introduction to English Phonetics. Edinburgh: Edinburgh UP.


- Roach, P. (2002). A Little Encyclopedia of Phonetics. University of Reading.   United
     Kingdom.

- ------------- (2009) English Phonetics and Phonology: A Practical Course.         (4<sup>th</sup> ed.).
     Cambridge, UK: Cambridge University Press.

-Ryding, Karin, C. (2014). Arabic Linguistics Introduction. Cambridge: Cambridge University
     Press.

- Semaan, K. I. (1963), Arabic phonetics: A Treatise on the Points of articulation of the Speech
     Sounds" (AsbabḤuduth Al-Ḥuruf).  Lahore, Sh. Muhammad Ashraf.

- Sethi, J., Dhamija, P.V. (2010). A Course in Phonetics and Spoken English. New Delhi: PHI
     Learning Pvt. Ltd.

-Small, Larry, H. (2020).  Fundamentals of Phonetics: A Practical Guide for Students. (5th ed.).
     Boston. Pearson Education, Inc.

- Sproat, R., Fujimura, O. (1993). Allophonic Variation in English /l/ and its Implications for
     Phonetic Implementation. Journal of Phonetics, 21, 291–311.

- Tench, P. (2011). Transcribing the Sounds of English. Cambridge: Cambridge University
     Press.

- Trask, R.L. (1996). Dictionary of Phonetics and Phonology. London: Routledge.

- Turton, Danielle. (2014). "Variation in English /l/: Synchronic Reflections on the Life Cycle of Phonological Processes". Ph.D. thesis, University of Manchester.