



Assimilation and Elision of Lateral and Nasal Sounds in English

Dr. Osman Alteyp

Saudi Arabia.

ABSTRACT

This research paper attempts to identify the following: first, the nature and circumstances under which the nasal sound /n/ changes to the lateral sound when /n/ is between /v/ and /l/ in the word 'online' /vɒnline/; second, why /v/ is assimilated by /n/ in 'only' /vɒnli/ and 'online' /vɒnline/; third, what reasons lead to the delateralization of the sound /l/ after the sounds /ɔ:/ and /ɑ:/ in the words 'talk' /tɔ:k/ and 'calm' /kɑ:m/; and lastly, the proper definition of the process under which the sound /n/ and /l/ lose their distinctive features. The most important results are the following: the sound /n/ and /l/ lose their lateral and nasal features after the back vowel /v/ in 'online' /vɒnline/. Moreover, the English sound /l/ loses its feature after the sounds /ɔ:/ and /ɑ:/ in the words 'talk' /tɔ:k/ and 'calm' /kɑ:m/. Denasalization is a phonological process under which the sound /l/ loses its lateral feature.

KEYWORDS: Assimilation, Denasalization, Delateralization

In connected speech, many sounds phonologically interact together. This phonological interaction occurs because many sounds share common phonetic distinctive features. These features include the placement or manner of articulation, voicing, nasalization, or force of articulation.

Ofulue et al. (2010) define assimilation as a phonological process that occurs to phonemes in the context of other phonemes across words and word boundaries. In the flow of speech (a sequence of sounds within one word or word boundaries), one sound has a certain power on the sounds that come before or after it. The sound changes depending on the qualities of both sounds within a word or word boundaries.

This type of assimilation is defined by the term 'place of articulation'. In this process, one consonant sound takes the place of another sound depending on the feature of the neighbouring sound. In this respect, Lecumberri and Maidment (2000) outline three types of assimilation occurring in place of articulation: alveolar stops, alveolar fricatives, and alveolar syllabic nasals. In the alveolar syllabic nasal, the core of the syllable acquires the nasalized feature and loses the oral feature. For example, in the word 'man' /mæn/, /m/ and /n/ are nasal, but /æ/ is oral, and /æ/ is the core of the syllabic word. Then the core of the syllable is changed to the alveolar syllabic nasal. The sound /n/ is described as a sonorant alveolar syllabic nasal that changes the quality of oral sounds to a nasalized sound.

Peter Roach describes the sound /l/ as the lateral syllabic

consonant after the elision of the weak vowel /ə/. A claim shows that this kind of elision is due to the power of the lateral sound /l/ over the weakness of the central vowel /ə/. In some phonological environment, the lateral sound /l/ is completely elided. However, the power of the nasal sounds /n/ and /l/ are weakened by certain phonological circumstances.

To identify these circumstances, we must use articulatory analysis to analyse the sounds /n/ and /l/ within the sample words 'only' /vɒnli/, 'online' /vɒnline/, and 'calm' /kɑ:m/. The articulatory analysis will focus on the distinctive features of /v/ and /ɑ:/ before /l/ on one side and /v/ before /n/ on the other side.

The process entails acquiring and losing distinctive features of the phonemes /n/, /l/, /v/, and /ɑ:/ during the articulation of /v/ and /ɑ:/ before /l/ on one side and /v/ before /n/. To show their distinctive features, the articulation of /n/, /l/, /v/, and /ɑ:/ will be reviewed, focusing on their place of articulation and nasalization.

All the distinctive features of the individual sounds (/n/, /l/, /v/ and /ɑ:/) will be represented by +/l/. During the production of the whole word or at the syllables boundary, a phoneme may acquire or lose some of its distinctive features because of another sound.

In the pronunciation of /v/, the soft palate is raised, allowing air to escape through the oral cavity. The back of the tongue is raised towards the soft palate in an open position. The



centre of the tongue is lowered as a result of moving back cavity. The following table shows the distinctive feature of the tongue in an open position, making a valley in the oral the sound /ɒ/.

Sound	Place of articulation				Nasalization	
	Alveolar	Back	Open	Centre of the tongue	Nasal	Oral
/ɒ/	-	+	+	+	-	+

The succeeded sound in the same word 'only' /ɒnli/ is /n/. In the production of /n/, the soft palate is lowered, the oral cavity is completely blocked, and air escapes through the nasal cavity. The following table explains the distinctive feature of the English vowel sound /n/.

Sound	Place of articulation				Nasalization	
	Alveolar	Back	Open	Centre of the tongue	Nasal	Oral
/n/	+	-	-	-	+	

During the pronunciation of the lateral sound /l/, the soft palate rises, the tip of the tongue touches the alveolar ridge, the centre of the tongue is lowered, and the rims of the tongue make one or two holes, wherein the air escapes out of the oral cavity. The following table explains the distinctive feature of the English vowel sound /l/.

Sound	Place of articulation				Nasalization	
	Alveolar	Back/ raised	Open	Centre of the tongue lowered	Nasal	Oral
/l/	+	+	-	+	-	+

There are circumstances under which a sound may lose or acquire a distinctive feature of another sound because of another neighbouring sound. This process leads to a sound either becoming assimilated or elided. If phonemes in the flow of speech of 'only' or 'calm' lose some of their distinctive features because of the power of a neighbouring sound, a sound will take a - value. If a sound acquires another feature because of the weakness of another sound, it will take a + value. In the word 'only' /ɒnly/, articulatory analysis will be focused on the distinctive features the sequence of sounds /ɒnli/.

In the articulation of the first sound /ɒ/ in the word 'only', the soft palate is raised, and the back of the tongue is raised against the hard palate in between the open and mid-open positions. The centre and front of the tongue are lowered, resulting in an opening between the front part and the hard palate. In this speech mechanism, the speaker glides the sound /ɒ/ to the alveolar ridge for producing /n/, which requires total closing of the oral cavity. In this speech process, the sound /ɒ/ will be assimilated by the nasal sound /n/. However, the production of the glide sound /n/ is influenced by the production mechanism of the lateral sound /l/. /l/ requires lowering the centre of the tongue, allowing air to escape between one of the two holes made by the rims of the tongue and the upper molars.

In the pronunciation of the word 'only' /ɒnli:/, it appears that the nasal sound /n/ loses its nasalized feature because of raising the soft palate and lowering the centre of the tongue to articulate /ɒ/ and /l/. In this phonological process, the sound /n/ is also assimilated by the lateral sound because

/n/ and /l/ have the same place of articulation (alveolar sounds).

If a speaker lowers the soft palate during the articulation of the sequence of sound /ɒn/, the oral cavity will be completely blocked, and the front and centre of the tongue come in contact with the hard palate. In this case, the sound /ɒ/ loses its oral feature because air escapes through the nose.

When the sound /n/ loses its nasalized feature, the sound /l/ will be more emphatic. This is due to the intensity of the vowel sound /ɒ/ and a blockage that is made by the tip of the tongue with the alveolar ridge because of raising the front and back parts of the tongue and lowering the centre of the tongue. The sound /l/ will be more prominent simultaneously with the escaping air through one of the two holes made by the side rims of the tongue and the upper molars for producing the sound /l/. /ɒ+/l/ are nasalized in the word 'only', where the sound /l/ loses its lateral feature because of lowering the soft palate, and air escapes through the nose.

It seems /n/ and /l/ play an alternative nasal or lateral role after /ɒ/. This is due to the high sonority of /l/ and /n/ and the power of the vowel sound /ɒ/, which contributes effectively to changing /l/ to /n/ and vice versa. When the sound /n/ in the word 'only' /ɒnli/ is assimilated by the lateral sound /l/, the sound /n/ will be denasalized, and the sound /l/ will be geminated. If the sound /l/ in the word 'only' /ɒnli/ is assimilated by /n/, the whole syllable /ɒnli/ will be nasalized. The first syllable is /ɒn/ and the initial sound /l/ of the second syllable -ly /li:/. The following table shows the distinctive features of the sounds that make the word 'only' as isolated sounds.

	Place of articulation				Nasalization	
	Alveolar	Back of the tongue raised	Centre of the tongue lowered	Open	Nasal	Oral
/v/	-	+	+	+	-	+
/n/	+	-	-	-	+	-
/l/	+	+	+	-	-	+

Another process of delateralization or elision of the sound /l/ is found in words such as ‘talk’ /tɔ:k/ and ‘told’ /tɔ:ld/. /l/ in the word ‘talk’ is elided for an unknown phonological reason throughout the history of English. However, the matter is different for /l/ in the word ‘told’ /tɔ:ld/. The sound /l/ in this case is delateralized for articulatory reasons.

Uttering the sound /l/ requires lowering the back of the tongue and raising the front of the tongue towards the alveolar ridge. The production of the back vowel /ɔ:/ is made by raising the back of the tongue against the soft palate and lowering the centre of the tongue. This process motivates the sound /l/ to lose one of its articulatory features. The last two sounds of the word ‘told’ are /l+d/, which are alveolar and produced from the same place of articulation. Therefore, the sound /l/ is assimilated by /d/. Between the intensity of the vowel sound /ɔ:/ and the assimilation of the lateral sound /d/, the lateral sound will be delateralized.

In another phonological environment, the lateral /l/ is completely elided. For example, in the words ‘talk’ /tɔ:k/, ‘walk’ /wɔ:k/, ‘calm’ /kɑ:m/, and half /hɑ:f/, the sound /l/ is in the middle of the words and preceded by either a back open unrounded /ɑ:/ and a back open rounded vowel /ɔ:/. The question is does the articulatory mechanism of /ɑ:/ and /ɔ:/ cause any phonological change to the articulation of /l/? To answer this question, one would need to explain the production of the three sounds in the flow of speech (‘walk’ /wɔ:k/ and ‘calm’ /kɑ:m/).

During the production of the vowel sounds /ɔ:/ and /ɑ:/ in ‘walk’ /wɔ:k/ and ‘half’ /hɑ:f/ before /l/, there is a need to lower the centre of the tongue and raise the back of the tongue to produce the vowel sounds /ɔ:/ and /ɑ:/. This articulatory mechanism makes the front of the tongue completely far from contacting the alveolar ridge and touching the upper molars for articulating /l/ because the production of the lateral sound /l/ requires a hole that is made by the side rims of the tongue and the upper molars. The articulatory mechanism of the vowel sounds /ɔ:/ and /ɑ:/ before the lateral sound /l/ motivates the English speaker to elide /l/.

Why is /r/ assimilated by the vowel sounds /ɔ:/, /i/, and /ɑ/ to produce the long sounds /ɔ:/ and /ɜ:/ in the words ‘door’ /dɔ:/ and ‘first’ /fɜ:st/? The words ‘door’ /dɔ:/ and ‘port’ /pɔ:t/ are conducive phonological environments that motivate /ɔ:/ to assimilate the post alveolar /r/. This is due to some degree of similarity in the articulatory mechanism of /ɔ:/ and /r/. To make this theoretical answer more

logical and practical, we need to compare the phonological distinctive features of the two sounds. The articulation of /r/ and /ɔ/ is required in the mid-open position, distanced between the back of the tongue and the soft palate. During the pronunciation of /i+r/, the opening area between the palate and the front of the tongue is in a half-closed position.

It is obvious that /r/ is assimilated by /ɔ/ and /i/ in the sequence of sounds (/ɔ+r/=/ɔ:/ and /i+r/=/ɜ:/). When the sound /r/ is assimilated by the short and simple vowel sounds /ɔ/ and /i/, they will be changed from short to long, from weak to strong, and from lax to tense. This is because the sound /r/ adds extra distinctive features concerned with the duration and force of articulation for both sounds /ɔ/ and /i/.

The case is different for the central vowels /ʌ/ and /ə/. They do not assimilate any sounds, but rather, they make the surrounding sounds, specially plosive sounds, more prominent, for example in ‘cut’ /kʌt/ and ‘but’ /bʌt/. This is because the production of a stop sound requires the air stream to fully stop at a certain place of articulation. The central vowel causes no obstruction to the air stream during the production of the stop sounds either before or after the central vowels /ʌ/ and /ə/.

The phonological circumstances (elision and assimilation) involve a sound either losing or acquiring a distinctive feature of another sound because of another sound. Denasalization is a process in which a nasal sound loses its nasalized feature because of surrounding sounds /ɔ/ and /l/ in the word ‘only’ /ɔnli:/. In this phonological environment, /l/ will be more emphatic and lateralized. Delateralization is an elision process where the sound /l/ loses its lateralized feature in words such as ‘talk’ /tɔ:k/ because of a long, open, back, rounded /ɔ:/.

The vowel sounds /ɔ/ and /i/ assimilate /r/ to produce long sounds /ɔ:/ and /ɜ:/ in the words ‘talk’ /tɔ:k/ and ‘first’ /fɜ:st/. In this process, /ɔ:/ and /ɜ:/ are known as semi-consonant sounds because they share the same distinctive feature of the articulatory aspect of the post alveolar consonant /r/, and /r/ takes the vowel sound feature (air escapes freely without any obstacles) and prevents the tip of the tongue from tapping the post alveolar.

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