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## Modern Perspectives of Assimilation Analysis in Arabic with Reference to English

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<b>Keywords:</b> <i>assimilation</i> <i>direction</i> <i>distance</i> <i>stability</i> <i>features</i>	<b>Abstract:</b> Assimilation is a phonological process where there is a change of one sound into another due to the effect of neighboring sound(s). It is one of the most important types of sound change. So in rapid, as well in slow speech, sounds tend to assimilate others in order to maintain a continuous flow of speech. This paper is focused on systematic classification of assimilatory processes found in connected speech in Arabic with reference to English. It represents a complex typology of assimilation based on 10 different analytical perspectives resulting almost in 40 types of assimilation. In addition to that, it is used as a tool for analyzing other connected speech phenomena of other languages.
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## الافاق الحديثة لتحليل ظاهرة المماثلة الصوتية في اللغة العربية بالإشارة الى اللغة الإنكليزية

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الخلاصة:	الكلمات الدالة: -
الافاق الحديثة لتحليل ظاهرة المماثلة الصوتية باللغة العربية بالإشارة الى اللغة الإنكليزية: تعد ظاهرة المماثلة الصوتية احدى الظواهر الصوتية التي تحدث عندما يكون هناك تغيير من صوت الى اخر بسبب تأثير الأصوات المجاورة، وتعتبر من اهم جوانب التغيير الصوتي الذي يحدث في الكلام العادي او الكلام السريع لغرض الوصول الى سلاسة صوتية عند التكلم. تركز هذه الدراسة على تصنيف عمليات انتقال أثر الصوت في المماثلة الصوتية في اللغة العربية بالإشارة الى اللغة الإنكليزية بناءً على عشرة انواع من الأسس التحليلية مما ينتج تقريبا أربعون نوعا من المماثلة الصوتية. تنمي هذه الأسس التحليلية التطلعات نحو دراسة وتحليل ظواهر أخرى للكلام المتصل للغات أخرى.	-المماثلة الصوتية - الاتجاه -المسافة -الثبات -أسمات  <u>معلومات البحث</u> <u>تاريخ البحث:</u> الاستلام: ٢٠١٩/١١/١٩ القبول: ٢٠٢٠/٢/١ التوفر على النت

### 1. Assimilation

Generally speaking, assimilation is concerned with one sound becoming phonetically similar to an adjacent sound. Sounds that belong to one word can cause changes in sounds belonging to other words. When a word's pronunciation is affected by sounds in a neighboring word, we call this process assimilation. Recent phonetic research, in this area, deals with the concept of co-articulation (Hardcastle & Hewlett, 1999: 7), though the latter term strictly refers to the fact that, when pronounced, certain

sounds are uttered together and thus it actually describes the cause of assimilation. In rapid and casual speech, the assimilated form is more typical in connected speech.

Assimilation is considered a common phonological process by which the sound at the end of one word blends into the sound at the beginning of the following word. This occurs when the parts of the mouth and vocal cords start to form the beginning sounds of the next word before the last sound of the previous word has been completed, a case which is handled exhaustively by many scholars. Roach (2002: 7) explains that if speech is thought of as a string of sounds linked together, assimilation is what happens to a sound when it is influenced by one of its neighbors.

Different names have been used for assimilation in Arabic. Both Sibawayh (1975: 4/477) and Ibin Jinnī (n.d.: 1/157), call assimilation as ‘Al-Mudāhara’ or ‘At-taqrīb’, rather than ‘Al-Mumathala’ as it is called nowadays by many linguists, such as Raḥīm, et.al, (1986: 90) and Az-Zaydī (1987: 230). However, the closest Arabic term to assimilation is ‘taqārub al-aṣwāt’. Consequently, different definitions of assimilation are presented by Arab and non-Arab scholars. Jones (1972: 34) defines it as “the process of replacing one sound by another under the influence of a third sound which is near it in a word or a sentence”. Roach (2002: 54) defines assimilation as a process whereby a phoneme can be realized differently because of being near another phoneme belonging to a neighboring word. According to Rowe and Levine (2012: 79) assimilation is an obligatory process that makes it easier for speakers to pronounce combinations of sounds by giving these sounds shared distinctive features that in other environments one or more of these would not have. Abercrombie (1967: 135) states that when assimilation is made, it has the same effect of producing some economy of effort in the utterance. The result is to reduce the number or the extent of movements and adjustments which the speech producing organs have to perform in the transition from one word to another.

## **2. Types of Assimilation**

Assimilation is classified differently by different English and Arabic scholars. Accordingly, different approaches have been suggested to classify assimilation in both languages. Anyhow, these different approaches are amazingly found in both languages which postulate the universality of this phenomenon (Abdurrahman, 2016: 79). Before presenting assimilation types, it is better to distinguish firstly between the segments assimilated (assimilee), the segment which assimilates another segment (assimilator), and the segment resulting from assimilation (assimilant)

### **2.1 The Type of Speech Sound Involved in Assimilation:**

Assimilation may be distinguished according to this type as vocalic or consonantal. Vocalic assimilation occurs when an assimilator exerts an effect on a vocalic element, for example, vowels followed by a nasal consonant tend to be nasalized as in "moon"

[mũ:n]. In consonantal assimilation, the assimilee is a consonant as in "get you" [getʃʷu:] (Palvic, 2009: 8).

In Arabic, (يكتبون) (they write) [jaktubũ:n<sup>w</sup>] is an example for vocalic assimilation where /ũ/ is nasalized; where as (ان بورك) (to be blessed) [ʔm b<sup>w</sup>urika] represents consonantal assimilation.

## **2.2 The –emic, -etic Distinction:**

Assimilation may be divided into phonemic and phonetic (allophonic). Phonemic assimilations are those processes which result in the formation of a new phoneme. For example, the change of /n/ to /ŋ/ in "in case". Allophonic assimilations, on the other hand, are produced when the assimilant is not a separate phoneme. For example; the aspirated [t<sup>h</sup>] in "time" [t<sup>h</sup>aim] (Pike, 1972: 110).

In Arabic, similar distinction can be found. As for phonemic assimilation, the change of [d] to [t] in (وجدتم) (you found) /wajattum/ is a good example. Allophonic assimilation may be illustrated in the following example (ان كنتم) (if you were) [iŋk<sup>w</sup>ũn<sup>w</sup>tũm<sup>w</sup>].

## **2.3 On the Basis of the Time of Origin:**

According to this viewpoint, assimilation has been divided into diachronic and synchronic (Abercrombie, 1967: 138).

### **A- Diachronic Assimilation**

Jones (1972: 218) and Abercrombie (1967: 138) state that diachronic assimilation has taken place in the course of development of language; i.e., a word which was pronounced in a certain way is now pronounced in another. For example, the word (scamt) [skamt] is now (scant) [skant].

In Arabic, the word (اصتبر) (be patient) [ʔiʃtabara] is now pronounced (اصطبر) [ʔiʃtabara].

### **B- Synchronic Assimilation**

This kind of assimilation occurs in present in connected speech when words are juxtaposed in the sentence or in the formation of compounds. For example, 'in fact' [im fakt] where /n/ is assimilated to /m/ (Abercrombie, 1976: 138).

In Arabic, the example 'قد تبين' (has become clear) [qat t<sup>h</sup>abajjãna] shows synchronic assimilation where /d/ assimilates to /t/.

## **2.4 On the Basis of the Position in the Syntagmatic Axis:**

According to this criterion, assimilation may be divided into inter lexemic and intra-lexemic (Pavlic, 2009: 6). Inter lexemic assimilation occurs between lexemes, for instance, ‘ten cups’ [t<sup>h</sup>e<sup>n</sup>k<sup>h</sup>^ps] where [n] becomes [ŋ]. Intra-lexemic assimilations, on the other hand, occur within lexemes as in the word ‘rammed’ where the alveolar [d] is spread backward to [m] resulting in the alveolar-bilabial-nasal [mn̩] in [ramnd̩] (ibid).

In Arabic, both cases of syntagmatic assimilations can be found, and better explained in the following examples:

‘لقد زار’ (he has visited) [laqaz zarə] where [d] changes to [z] (inter lexemic assimilation); ‘انباء’ (news) [ʔmba:ʔ] where [n] changes to [b] (where the bilabial [b] spreads backwards to [n] resulting in the bilabial-nasal instead of the alveolar-nasal).

### **2.5 On the Basis of the Degree of Stability/ Fixity**

Assimilation can be divided according to the degree of stability into stable (fixed) assimilation or relatively variable assimilation (Pavlic, 2009: 7).

- a- Stable assimilation: this type always occurs as an assimilated form. For example, the regular past tense morpheme (–ed) is always pronounced as /t/ when preceded by voiceless consonants, and the (-s) plural morpheme is always pronounced /z/ when preceded by voiced sounds. Such assimilations are stable regardless of speech rate and style.

In Arabic, cases of stable assimilation are also found. For instance, when the word (الله) (Allah) is preceded by /ʔ/ (fatha) or /u/ (dhamma), the sound /l/ is always dark, while when it is preceded by /i/ (kasra) the sound /l/ is always light regardless of speech rate and style. This is called in Arabic ‘al-tafkhīm’ and ‘al-tarqīq’.

- b- Variable assimilation: is an assimilation which may or may not occur in a particular context, and it often depends on speech rate and various stylistic factors. For example, the word ‘input’ which is either pronounced [input] or [imput]. In Arabic, many cases are noticed like ‘من راق’ (who will cure) [mən raq] where there is a short pause between ‘ن’ /n/ and ‘ق’ /q/ so there’s no assimilation.

### **2.6 On the Basis of Degree of Opacity**

Assimilation may be opaque or transparent according to opacity. (Pavlic, 2009: 8). Opaque assimilation is not transparent, i.e, not traceable back to its original form. For example, the word ‘ant’ [ant] is not traced back to its origin ‘amete’. That is, there is only one already assimilated form. Transparent assimilations, on the other hand, refer to the words whose assimilated and non-assimilated forms available. For instance, the phrase ‘good boy’ which has two pronunciations: [g<sup>w</sup>ud<sup>w</sup> b<sup>w</sup>oi] and [g<sup>w</sup>ub<sup>w</sup> b<sup>w</sup>oi].

In Arabic, opaque assimilation is best shown in the example ‘اطلع’ (looked) which has one pronunciation [iʔtələʔə] where the non-assimilated form ‘تطلع’ cannot be

traceable back. Transparent assimilation can be illustrated in the following example: 'فقد ظلم' (has oppressed) which has two pronunciations: [fəqəd ɖələmə] and the assimilated form [fəqəɖ ɖələmə].

## **2.7 On the Basis of Direction of Influence**

When sounds are pronounced contextually, they are likely to influence each other. This influence may work in either direction and sometimes in both. According to its criterion, assimilation can be classified as unidirectional and bi-directional.

### **A- Unidirectional assimilation**

#### **1. Progressive assimilation**

This kind of assimilation implies sound changes because of the influence of the preceding sound (Roach, 2002: 111). For example, 'lunch score' has the change of the sound [s] which has become [ʃ] under the influence of the preceding sound [tʃ]. In Arabic, a good example of progressive assimilation is found in the progressive vowel harmony in 'الحمد لله' (prais be to Allah) [ʔəlhəmdu lila:h] → [ʔəlhəmd<sup>w</sup>u lila:h]. However, this kind is less common in English and Arabic as well.

#### **2. Regressive Assimilation**

It is known as 'anticipatory' or 'coalescent' assimilation (see: Abercrombie, 1967: 134). In this kind, the influential sounds move backwards; i.e, the phoneme that comes at the end of the first word is influenced by the first phoneme of the second word. For example, 'ten bikes' [t<sup>h</sup>ɛn baɪks] where [n] is influenced by the following sound [b].

### **B- Bi-directional Assimilation**

This type of assimilation presupposes one or more assimilators and one or more assimilees. According to Pavlic (2009), three kinds of bi-directional assimilation are distinguished:

#### **1. Double (dual) assimilation**

This kind occurs when a sequence of segments (ABC): A and C both exert influence on segment B. In other words, segments A and C are both assimilators while segment B is assimilee. In fact, this is a combination of progressive and regressive assimilation. For instance, the labialization of a consonant when occurs between rounded segments as in 'too soon' [t<sup>w</sup>u: s<sup>w</sup>ɪ:n<sup>w</sup>] where [s<sup>w</sup>] is labialized due to the preceding and following [u:].

This kind is found in Arabic as in 'يكتبون' (they write) [jakt<sup>w</sup>ub<sup>w</sup>ɪ:n<sup>w</sup>] where [b<sup>w</sup>] is labialized due to the preceding and following sounds [u] and [u:] respectively.

#### **1. Bilateral Assimilation**

According to Pavlic (2009: 8) bilateral assimilation occurs when in a sequence of segments ABC, segment B exerts an influence on both segments A and C. In other words, segment B is the assimilator while segments A and C are the assimilees. For example, labialization caused by rounded vowels that spread in both directions as in ‘moon’ [m<sup>w</sup>ũ:n<sup>w</sup>]. however, the labialization of the segment preceding the rounded vowel is usually stronger than that of the segment following it. This kind can be noticed in Arabic in ‘ن’ [n<sup>w</sup>ũ:n<sup>w</sup>] where the first and the last sounds are labialized.

## **2. Reciprocal Assimilation**

It occurs when in a sequence of segments AB, segments A and B exert an influence on each other reciprocally (Gimson and Cruttenden, 1994: 260). In coalescent assimilation, the influence operates in both directions; therefore, it is sometimes called bi-directional assimilation. This type of assimilation presupposes one or two assimilators and one or more assimilees. In Arabic, there are no examples of this type; whereas, this type is rare in English and can be summarized by the following rule:

/t,d,s,z/ + /j/ = /tʃ, dʒ, ʃ, z/ reciprocally.

### **2.8 On the Basis of the Degree of Similarity**

Abercrombie (1967: 137) and Hardcastle (1994: 50) classify assimilation according to the degree of similarity. Here, assimilation can be either complete or partial.

1. Complete Assimilation: it is defined as a process in which the assimilee adjusts to the assimilator, so they have the same type and number of features (Pavlic, 2009: 9). This can be expressed by the formula AB → AA or BB. For example the consonant [n] in ‘on Monday’ is assimilated to the consonant [m] in the place of articulation, and thus becomes identical to the assimilator. Arabic scholars explain complete assimilation in that if two sounds become identical (for germination) then assimilation is complete (مكي, 1973: 231). The most frequent example of complete assimilation is the definite article preceding ‘shamsi sounds’: /ʔə/ + /t,d,θ, ð, s,ʃ,r,l,n, ʂ, ð, t/ as in ‘الشمس’ (the sun) [ʔʃʂəms].

## **2. Partial Assimilation**

It indicates that the assimilee becomes similar but not identical in all features to the assimilator. For the example, [n] in the phrase ‘ten bikes’ has fallen under the influence of the following [g], and has acquired its bilabiality, but doesn’t have its plosiveness. In Arabic, where there is no possibility for germination, assimilation is partial. Ibn Jinni (1970: 97) names this kind of assimilation ‘al-idgham an-naqis’. For example, ‘من وال’ (defender) /min wal/ → [mīw wal].

## **2.9 On the Basis of Distance Between Sounds**

Assimilation may be classified according to the distance that separates the assimilator and the assimilee (Crystal, 1994: 28). Two subtypes are distinguished:

### **1. Contiguous (contact) assimilation**

This kind occurs when there are no intervening segments between the assimilee and the assimilator(s); i.e, there is no other sound between the two sounds concerned. For example, ‘sit down’ (Rahim and Younis, 2001: 4). In Arabic this type is called ‘al-idgham al-saghir (small assimilation) where two sounds are contiguous to each other without any vowel between them, as in: ‘ولقد زيننا’ (we have beautified) [walaqad zadjjānna:]→[walaqaz zadjjānna].

### **2. Non- Contiguous Assimilation**

It occurs when there is one or more intervening segments between the assimilee and assimilator. For example, ‘discussing shortly’ where the second/s/ in ‘discussing’ may be pronounced as /ʃ/ under the influence of /ʃ/ in ‘shortly’. This kind is called ‘idgam al-kabir’ (big assimilation) in which the assimilee and assimilator are separated by a vowel(s). For instance, the inversion of /s/ to /ʃ/ in the word ‘سراط’ (path), thus: [siraʔ]→[ʃiraʔ].

## **2.10 On the Basis of Features Affected**

Many linguists such as Abercrombie (1967: 62), Gimson (1976: 291) and Roach (2002: 55) state that assimilation can be classified according to the consonantal features affected as follows:

### **a. The place of articulation**

According to the place of articulation, many types can be distinguished:

1. Labial assimilation: when the lips rounded characteristics of the assimilator are transferred to the assimilee. This process is referred to as labialization. For example, ‘cool’ [k<sup>w</sup>u:l<sup>w</sup>]. We can find labial assimilation in Arabic in the following example: ‘ينطقون’ (they say) [jantiq<sup>w</sup>u:n<sup>w</sup>].
2. Bilabial assimilation: when the bilabial closure of the assimilator is transferred to the assimilee. It is called bilabialization. For instance when [n] is followed by [p] in the phrase ‘in peace’ [ĩmpi:s] where [n] is bilabialized. In Arabic, this case can be illustrated in the following example: ‘انباء’ (news) [ʔāmba:ʔ].
3. Labiodental assimilation: the labiodental characteristics of the assimilator are transferred to the assimilee. It is referred to as labiodentalization. For instance,



‘in vain’ [ɪn<sup>ɪ</sup>veɪn]. In Arabic, this phenomenon is found in the following example: ‘من فوق’ (from up) [mɪn<sup>ɪ</sup>fəuq].

4. Dental assimilation: it takes place when the dental characteristics of the assimilator are transferred to the assimilee. This process is called dentalization, as in ‘one thing’ [w<sup>ʰ</sup>ŋ θɪŋ]. In Arabic, dentalization is clear in examples such as: ‘منذ’ (since) [mũŋðu].
5. Alveolar assimilation: here, the alveolar characteristics of the assimilator are transferred to the assimilee. It is called alveolarization, as in: ‘sometimes’ [s<sup>ʰ</sup>mtaɪmz]. In Arabic, we may find this case in the following example: ‘لم تكن’ (it was not) [lɛmtəkũn].
6. Postalveolar assimilation: the postalveolar characteristics of the assimilator are transferred to the assimilee. This process is referred to as post-alveolarization, for instance: ‘in Rome’ where [ŋ] tends to be post-alveolarized. In Arabic, this case is expressed in the following example: ‘من ربك’ (from your God) [mɪnrɒbɪkə].
7. Velar assimilation: the velar characteristics of the assimilator are transferred to the assimilee. For example, ‘in case’ where the velar characteristics of [k<sup>h</sup>] is transferred to [ŋ]. In Arabic, ‘منكم’ (from you) [mɪnkum] is an example of velar assimilation.

b. The manner of articulation

Two types of assimilation are distinguished according to the manner of articulation. They are:

1. Aperture assimilation: which refers to the degree of openness. It occurs when the aperture characteristics of the assimilator are transferred to the assimilee, like ‘thank you’ where the aperture of [j] decreases under the influence of [k].
2. Airstream-direction assimilation: which occurs when the airstream characteristics of the assimilator are transferred to the assimilee. It mainly concerns plosive consonants, which can have their occlusion released in different ways according to the airstream characteristics of the following segment (Pavlic, 2009: 9). For example in ‘fickle’ there is a lateral explosion as the air escapes through one or both sides of the tongue.
3. Voicing: assimilation is traditionally classified according to the participation or lack of participation of the vocal cords in the production of sounds. For example ‘beds’ where the voiceless [s] becomes [z] due to the effect of the preceding voiced [d].

### **3 Complex Assimilation Analysis**

Assimilation is the phonological process that makes it easier to pronounce a combination of sounds by giving these sounds shared distinctive features that, in other environment, one or more of them wouldn’t have (Rowe and Levine, 2012: 75). Assimilation will be analyzed according to the ten perspectives mentioned simultaneously.

Example (1)

‘اذ ظلموا’ [ið ðələmu:] → [ið ðələmu:] [ð] → [ð̤]

(as they oppressed)

Assimilation in this example is:

1. Consonantal, because the asimilee is a consonant;
2. Phonemic, since the result of assimilation is the formation of a new phoneme;
3. Synchronic, because it happens to occur in connected speech;
4. Inter-lexemic, as it occurs between lexemes;
5. Variable, because it depends on speech rate and other stylistic features;
6. Transparent, once traced back to its origin;
7. Regressive, the influential sound moves backward;
8. Complete, the asimilee adjusts to the assimilator;
9. Contiguous; no intervening segments between the asimilee and the assimilator;
10. Assimilation of place, the voiced interdental fricative becomes voiced emphatic interdental fricative.

Example (2)

‘يعلمون’ [jəʃləmu:n] → [jəʃləmũ:n<sup>w</sup>] [u] → [ũ] [n] → [n<sup>w</sup>]

(they know)

**Assimilation in this example is:**

1. [ũ] consonantal, the asimilee is a consonant; [n<sup>w</sup>] vocalic as the asimilee is a vowel;
2. Phonetic; the asimilee is not a separate phoneme;
3. Synchronic, because it happens to occur in connected speech;
4. Intra lexemic, assimilation occurs within lexemes;
5. Stable, always occurs as an assimilated form;
6. Transparent, it is traced back to its origin;
7. Bi-directional (reciprocal), the two segments [ũ] and [n<sup>w</sup>] exert an effect on each other reciprocally;
8. Partial, both asimilees becomes similar but not identical in all features to the assimilator;
9. Contiguous, no intervening segments between the asimilee and the assimilator;
10. Assimilation of place, where the characteristic of roundness is transferred to [m] and [u:] is nasalized.

Example (3)

‘اطلع’ [ʔt̤ələʃə] → [ʔt̤ələʃə] [t] → [t̤]

(looked)

**Assimilation in this example is:**

1. Consonantal, because the assimilee is a consonant;
2. Phonemic, as the result of assimilation is the formation of a new phoneme [t̤];
3. Diachronic, which is not pronounced but assimilated;
4. Intra lexemic, assimilation occurs within lexemes;
5. Stable, it always occurs in its assimilated form;
6. Opaque, which is not traced back to its origin;
7. Regressive, the influential sounds move backwards;
8. Complete, the assimilee is identical in all features to the assimilator;
9. Contiguous, no intervening segments between the assimilee and the assimilator;  
Assimilation of place, the voiceless alveolar stop
10. Assimilation of place, the voiceless alveolar stop becomes emphatic voiceless alveolar stop.

Example (4)

‘الحمد لله’ [ʔħamdu lil la:h] → [ʔħamdu lul la:h] [i] → [u]

(prais be to Allah)

**Assimilation in this example is:**

1. Vocalic, because the assimilee is a vowel,
2. Phonetic; the assimilee is not a separate phoneme;
3. Synchronic, because it happens to occur in connected speech;
4. Inter-lexemic, assimilation occurs between lexemes;
5. Variable, because it depends on speech rate and other stylistic features;
6. Opaque, which is not traced back to its origin;
7. Progressive, the influence of the preceding sound [u] on the following one [i];
8. Complete, the assimilee is identical in all features to the assimilator;
9. Non-contiguous, there is an intervening segment between the assimilee and the assimilator;
10. Vowel- vowel assimilation.

**These examples can be better viewed in the following table:**

Analytical Perspective		Examples			
		‘اذ ظلموا’ [ð] → [ð̤]	‘يعلمون’ [u] → [ũ] [n] → [nʷ]	‘اطلع’ [t] → [t̤]	‘الحمد لله’ [i] → [u]
1	Type of sounds connected	consonantal	[ũ] consonantal [nʷ] vocalic	consonantal	vocalic

2	–emic, -etic distinction	phonemic	phonetic	phonemic	phonetic
3	Time of origin	synchronic	synchronic	diachronic	synchronic
4	Position in the syntagmatic axis	inter-lexemic	intra lexemic	intra lexemic	inter-lexemic
5	Degree of stability	variable	Stable	stable	variable
6	Degree of opacity	transparent	transparent	opaque	opaque
7	Direction of influence	regressive	bi-directional	regressive	progressive
8	Degree of similarity	complete	partial	complete	complete
9	Distance between sounds	contiguous	contiguous	contiguous	non-contiguous
10	Features affected	place	Place	place	shape of the lips

#### 4 Conclusion

This paper attempts to give a precise classification of assimilation in Arabic based on ten different analytical perspectives which are dealt with separately to avoid mixing. This leads to the following conclusion:

1. Assimilation in Arabic is analyzed in terms of ten perspectives: type of sounds connected, –emic, -etic distinction, time of origin, position in the syntagmatic axis, degree of stability, degree of opacity, direction of influence, degree of similarity, distance between sounds, features affected.
2. The application of these perspectives in assimilation analysis will yield almost to forty different assimilation types.
3. Complete assimilation in Arabic is compulsory while partial assimilation is optional.
4. Nasal assimilation (al-ghunna) is always complete.
5. Diachronic assimilation is rare in Arabic.

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