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/l/ in the Definite Article in Mosuli Arabic : Divergence from Assimilation Rules in Standard Arabic

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1. Introduction

Assimilation is an articulatory process that involves " the variation in the phonetic manifestation of a given sound due to its taking of some of the features of nearby sounds" (Ohala,1993:156). It is attested cross-linguistically and it is ascribed to economy in efforts or ease of articulation (see among others, Abercrombie,1967: 135 and Baković, 2006). The study of assimilation has received great attention in phonology over the last century and a renewed interest in assimilation in recent phonological studies is remarkably reflected in the sum of works written about it. Many phonologists have embarked on describing assimilation patterns and providing detailed accounts of its types and characteristics (see among others, Abercrombie, 1967:133-9; Roach, 2000:110-113; 2001: 53-61; McCarthy and Smith, 2003: 320-323). Many of these studies have focused on differentiating between diachronic (historical) and synchronic assimilation, whereas others have, more specifically, embarked on establishing the aspects of this change, among of which are: the direction of change: regressive or progressive, the degree of assimilation: partial or complete, the sounds features influenced by this change: voicing, place or manner of articulation, etc.

Studies on synchronic assimilation have differentiated between local and long-distant assimilation. The former refers to those instances of assimilation in which "the articulatory gestures that are proper to one segment intrude into neighbouring segments because it is impossible to achieve perfect coordination of the various articulators" (McCarthy and Smith, 2003:320). In this type

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of assimilation the target and the source segments are strictly adjacent, whereas in the long-distant assimilation, usually called "harmony", the target and the source may be quite far apart; this type is further divided into: consonant and vowel harmony. Among the examples that illustrate local assimilation are: the negative prefix in English (in-) as in "possible"→ "impossible" /ɪmpɒsɪbl/ and "credible" → "incredible" /ɪŋkredɪbl/, where /n/ in the prefix in the first example is changed into /m/ and in the second example into /ŋ/. Harmony, or distant assimilation is reported to occur in languages other than English, among of which are Abuan (Southern Nigeria)and Salishan (an American Indian language). For examples see McCarthy and Smith (2003). As for direction of influence two major types of assimilation have been recognized: regressive, with the following sound changing the preceding one, and progressive, the former sound changing the subsequent one. Regressive assimilation is demonstrated in "good case" / ɡʊd keɪs / → /ɡʊɡ keɪs / where /d /, an alveolar plosive is changed to be a velar plosive because of the influence of the following sound, viz. / ɡ /. An example of progressive assimilation would be the pronunciation of /j / as /ʒ / in the sequence " did you" /dɪd juː/ → /dɪd ʒuː/ (for more examples see Roach, 2000:111-3). Assimilation in consonants involves changing one or more of the following articulatory features of sounds: voicing, place, and manner of articulation in a given sound. Assimilation of voicing is characterized by replacing two successive different states of the glottis by a single state which is maintained unchanged (Abercrombie, 1967:135). This type of assimilation is found in English, but it involves changing voiced sounds to become voiceless and not vice versa, e.g., "cheese cake" /tʃiːz keɪk/ →/tʃiːs keɪk/ (Roach, 2000: 112). Assimilation involving place of articulation indicates that successive movements of two different articulators are replaced by a movement of one articulator only (Abercrombie, 1967:136). This kind of assimilation is widely found in English, e.g., "Is she? " /ɪz ʃɪ /→ /ɪʒ ʃɪ /, where an alveolar fricative is replaced by a post-alveolar fricative due to

the influence of the next consonant. As for the last type of assimilation, assimilation of manner of articulation ,"the change in manner is most likely to be towards an "easier" consonant – one which makes less obstruction to airflow." (Roach, 2000: 111f) An example that illustrates this type of assimilation is " that side" / ðæt saɪd / → /ðæs saɪd /.

The assimilation of / l / in the definite article (ʔal-) is one of the basic assimilation patterns in Standard Arabic. It involves assimilating / l /, an alveolar lateral consonant, to the following consonants beginning the attached nouns or adjectives. This pattern is remarkably seen in some consonants but not in others, though, e.g., /dʒ/, which entails the existence of some constraints or restrictions on the application of this assimilatory pattern (see Section 2 for details).

From a tentative observation, it was noticed that Mosuli Arabic is less conservative than Standard Arabic about the assimilation of /l / in the definite article to the next consonant in that it is also assimilated to /tʃ/ and /dʒ/, a pattern that is not attested in Standard Arabic.

In this paper assimilation rules of / l / in the definite article in Standard Arabic and Mosuli Arabic will be examined to find out places of match and divergence between these two Arabic varieties. An appeal to distinctive features is made to get into the nature of this process and to provide explanation to the mode of divergence between the two Arabic varieties.

2. Assimilation Rules of / l / in Standard Arabic

In Arabic a noun or adjective is made definite by adding the prefix (ال) /ʔal/ to it, e.g. كتاب جديد (a new book) and الكتاب جديد (the new book). Standard Arabic (SA henceforth) sounds (letters) are classified into two classes: "Solar" letters (حروف شمسية *ḥurūf shamsīyah*) and "Lunar" letters (حروف قمرية *ḥurūf qamarīyah*). The solar letters include all the letters that cause /l / in the definite article to assimilate to their manners of articulation, e.g., /ʔal+tamr/ → [ʔattamr] “the dates" and /ʔal+ʃams/ → [ʔaʃʃams] “the sun”,

whereas the lunar letters include all the letters that do not assimilate /l/ to their articulatory features, e.g., /ʔal+qamar/ → [ʔalqamar] "the moon" and /ʔal+ba:b / → [ʔalba:b] "the door". (See Table1) .

Table 1: Solar and Lunar Letters in Standard Arabic

The Solar and Lunar Letters in Standard Arabic	
Solar Letters	**θ , ð , ð , l , t , ṭ , d , ḍ, s , ṣ, z , n ,** r , **ʃ**
Lunar Letters	**b , m , f , dʒ , y , w , k , q , ḥ , ʕ , χ , ɣ , h , ʔ**

The question that may be raised here is :Why do the so called 'solar' letters cause assimilation of the /l/ of the definite article, but the 'lunar' letters do not?

In order to capture the nature of this assimilation pattern, consonants of either class will be analysed in terms of their distinctive features. In phonological theory it is well documented that "[a]nalysing speech sounds in terms of fundamental properties known as distinctive features accounts for a wide variety of phenomena in language sound systems, including contrast, the grouping of sounds together into natural classes, and alterations of sounds in various contexts." (Hume and Winters, 2006; see also McCarthy, 1999). Thus, distinctive features generally correspond to a specific articulatory or acoustic property of sound. An overview of the distinctive feature theory will be given below before we proceed in analyzing the Arabic consonants into their distinctive features.

Since Jakobson's introduction of the distinctive features during the 1940's, different versions of the distinctive feature theory have been proposed. The conception of the distinctive feature theory is based on the" decomposition of segments into constituent dimensions of contrasts." (Anderson, 1985:323) In (1952), Jakobson, Fant and Halle proposed a set of distinctive features which was later refined by Jakobson and Halle in (1956). The System of features they developed, a set of 9 binary features, was based mainly on the acoustic/ auditory features of sounds rather than on their articulatory features. (For details on Jakobson's system see Anderson, 1985: pp.116-129). In (1968), Chomsky and Halle, in their classic work The Sound Pattern of English, refined the

distinctive feature theory proposed by Roman Jakobson and employed it in their Generative Grammar. The features they proposed were more numerous than Jakobson's and were rather based on the articulatory aspects of sounds. Chomsky and Halle's system of features was subdivided into 5 groups: Major class features, Cavity Features, Manner of articulation features, Source features, and Prosodic features.(For details on this system and survey to these features see Keating, 1987 and Schane, 1973). Later in (1983), Halle and Clements posited a system of distinctive features that builds on Jakobson and Halle's (1956) and Chomsky and Halle's (1968) systems. Other refinements to Jakobson's (1941) set of features have also been made by other scholars, among of which is Ladefoged's (1971) feature system.

Distinctive features in consonants revolve around three articulatory features: voicing, place, and manner of articulation**.** To carry out the discussion in what follows only place of articulation features of solar and lunar letters will be referred to, for the complete matrix of distinctive features of these consonants the reader is referred to Appendix 2. In many models of distinctive features, place of articulation dominates three place features which correspond to three active articulators: labial, coronal and dorsal. Another feature that helps drawing border lines between labial /coronal and dorsal sounds is the feature 'anterior'. The places of articulation that these four features include are:

1. Labial: involving the lips (labials, labio-dentals)
2. Coronal: involving the front of the tongue (dentals, alveolars, post-alveolars, retroflexes)
3. Dorsal: involving the tongue body (palatals, velars, uvulars)
4. Anterior: involving the tip of the tongue against the alveolar ridge and forward toward the lips, i.e., alveolars, interdentals, labiodentals, and bilabials

The distinctive features of "solar" and "lunar" letters will be examined in what follows to substantiate the aim of this study. The phonetic classification matrices in (Tables 2 and 3) are basically built according to the theory developed by Halle and Clements (1983),with some modifications though [(1)]. The plus sign indicates

that the sound in the vertical column has the feature in the horizontal row category (see also Schane, 1973: 24-43). For the full matrix of distinctive features of consonants in Arabic see Appendix 2 [(2)].

Table 2: Place of Articulation Features of Solar Letters in Standard Arabic

Solar Letters	θ	ð	ð	l	t	d	ḍ	ṭ	s	ṣ	z	n	r	ʃ
Labial	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Anterior	+	+	+	+	+	+	+	+	+	+	+	+	+	_
Coronal	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dorsal	_	_	_	_	_	_	_	_	_	_	_	_	_	_

An examination of the features of these consonants in Table 2 indicates that all the 14 sounds share one common feature which is [+ coronal] and they are all [-labial] and [-dorsal].

Table 3: Place of Articulation Features of Lunar Letters in Standard Arabic

Lunar Letters	b	m	f	dʒ	y	w	k	q	ḥ	ʕ	χ	ɣ	h	ʔ
Labial	+	+	+	_	_	+	_	_	_	_	_	_	_	_
Anterior	+	+	+	_	_	+	_	_	_	_	_	_	_	_
Coronal	_	_	_	+	_	_	_	_	_	_	_	_	_	_
Dorsal	_	_	_	_	_	+	+	+			+	+		

By examining the distinctive features of "lunar" letters in Table 3 we gather that some of them are [+labial]: /b, m, f, and w/, while others are [+dorsal]: /w, k, q, χ , and ɣ /. A close examination to the features shared by these consonants reveals that all of them, except /dʒ /, are non-coronals, viz.[-coronal].

It can be tentatively concluded that the so-called 'solarʾ letters cause assimilation of the /l/ of the definite article because they share the property of being articulated with the front part of the tongue,

just as /l/ is. Within the principles of distinctive feature theory, these are all called coronal sounds (as opposed to labial and dorsal sounds). Thus, it can be said that in Arabic, only coronal sounds cause assimilation of the /l / of the definite article. This rule is given in the following formula within the notation of generative phonology (cf. Al-Khatib, 2003:31):

(1) / l / → Ø / — [+ coronal]

Ø in the rule does not mean that / l / is deleted (or disappears) but it is completely assimilated to the manner of articulation of the next consonant (cf. Al-Khatib, 2003: 31; see also Abu-Salim, 1988: 53-56). To describe the assimilation pattern of / l / in this context using the technical terms used in phonology, we can say that it is a local complete regressive assimilation that involves assimilating / l / to the articulatory features of whatever coronal consonant that follows. This process results in a geminate consonant completely assimilated to the quality of the next consonant.

Coronal consonants that are involved in this process are 14: / θ, ð , ð , t , ṭ , d , ḍ , s , ṣ , z , n , l , r , ʃ /. A single coronal consonant is excluded from this list, viz. /dʒ /, which behaves like lunar letters. Although both / ʃ/ and / dʒ / are post-alveolar consonants, only / ʃ / imposes influence on preceding /l /and assimilates it to its manner of articulation. Due to this restriction on the application of the rule stated above a statement of exception should be given to illustrate that /dʒ/ is not among the consonants that are involved in this process.

3. Background on the Phonology of Mosuli Arabic

Mosuli Arabic (MA henceforth) is a variety of Arabic spoken in Northern Iraq. It has some phonological and lexical features that keeps it distinct from other Arabic varieties spoken in the middle and south of Iraq (for more details about these aspects see Al-Joomard, 1989). Since the study is concerned with the assimilation patterns of / l / in the definite article in MA a close look will be given to its phonemic, viz. consonantal, inventory. MA has a large consonant system that includes 30 consonants; it includes almost all the consonants found in SA except / ḍ / which has been

fused with / ð / and no longer heard in native speakers' speech (see Rahim and Farjo, 1985). In addition, three more consonants are found in MA phonemic inventory that SA lacks; these are /p, tʃ, and ɡ/ (see also Tables 1 and 2). These three phonemes have filled the gap found in SA phonemic system which lacks voiceless counterparts to /dʒ/ and / b / and a voiced counterpart to /k/ respectively (see Kopczyński and Meliani, 1993). These three consonants /p, tʃ, and ɡ / have different place features: labial, coronal and dorsal, respectively.

As being stated earlier that from a tentative observation it was noticed that MA is less conservative than SA about the assimilation of / l/ to the initial consonant in the attached noun or adjective. We hypothesize that / p and ɡ / being non-coronal consonants behave in a manner similar to that of lunar letters in SA, whereas / tʃ, and dʒ /, both being coronal consonants, behave more like solar letters. In other words, / tʃ, and dʒ / initiating following nouns or adjectives cause / l / in the definite article to assimilate to their voice and manners of articulation .

Table 4: Coronal and Non-coronal Consonants in Mosuli Arabic.

Coronal and Non-coronal Consonants in Mosuli Arabic	
Coronal consonants	**l , t , ţ , d , θ, ð , ð , z , s , ş , n , r, ʃ , tʃ , dʒ ,**
Non-coronal consonants	**p , b , m , f , y , w , k , ɡ , q , χ , ɣ , ḥ , ʕ , h , ʔ**

4. The Data and Methodology

To validate the hypothesis stated above 40 phrases and sentences have been constructed and put in a printed list (see Appendix1). Five native speakers of Mosuli Arabic were asked to pronounce these sentences and phrases as they do in their every day speech. Their pronunciation was recorded using an MP3 player

Model Genx. The constructed sentences and phrases contained nouns that are in current use in spoken MA and they were all preceded by the definite article (ʔal-). These nouns begin with different consonants: coronal and non-coronal sounds. The aim was to examine the assimilation patterns of / l / when it is followed by these consonants.

5. Results and Discussion

The analysis of the data in MA demonstrated that /tʃ/ and /dʒ/ were among the consonants that cause / l / to assimilate to their articulatory features resulting in geminate consonants, e.g. (عيد الجيش) / ʕi:didʒdʒayʃ/ (The Army Day) and (أخذ الچولة) /ʔaxaðitʃtʃu:la / (He took the primus.). Nouns initiated with /ɡ / and / p / in the data, however, did not illustrate any change in articulatory features of / l /, e.g. (برياني بالگازو) /birya:ni: bilɡa:zo:/ (Beryani with cashew nuts) and (جا بالپاص) / dʒa: bilpa:ṣ / (He came by bus.). Thus, these two consonants behave in a way similar to 'lunar letters' in SA. (See Appendix 1 for other examples.) By examining the distinctive features of these two consonants we find that both are non-coronal sounds.

In what preceded it has been shown that SA imposes restrictions on the assimilation of / l / in (ʔal-) to the following / dʒ / in the attached words. Seeking a phonetic justification to this deviation in the behavior of / dʒ / leads nowhere since it is a coronal sound whose place of articulation is the same as the fricative / ʃ/, both are post-alveolar consonants. The justification that has been given in the literature to account for the deviation in the behavior of /dʒ / within the class of coronals substantiates on historical grounds. Thus, Bishr (2000: 309-342) and Anis (2007: 77-81) resort to the viewpoint that / dʒ / in SA is a historical development (or change) from a velar plosive, viz. /ɡ/, in Old or Classical Arabic. Similar historical changes have been reported in English, Latin, Tai, etc.(see Ohala, 1992, 1993 for details on this).

This kind of change is called "velar softening" or "palatalization"; it involves the change of velar (dorsal) stops (/k / and /ɡ/) into apical or palato- alveolar stops or affricates near front vowels or glides (Ohala, 1992: 319). The emergence of friction in these changed sounds is due to aerodynamic factors, hence the narrow channel through which the airflow passes enhances turbulence and results in friction noise (Ohala, 1993:157). From what preceded we gather that the assimilation rule of / l / in SA, as given in traditional grammar books, seems to be the remains of an old pattern for an extinguished or changed sound. This may be a reasonable justification for the exclusion of /dʒ/ from the class of consonants involved in this assimilation rule in SA.

The previous analysis and discussion demonstrated that the 15 consonants that impose an influence on preceding / l / form a class by themselves on the basis of some shared distinctive feature, viz. all being coronal sounds, and similar phonetic behavior, viz. all cause / l / to assimilate to their articulatory features (manner and voicing). Thus, it can be deduced that these 15 consonants form a 'natural class'[(3)]. In this respect, Clements and Hume (1995:1) state that : "…, since phonological rules apply to feature representations, it accounts for the observation that phonological rules typically involve "natural classes" of sounds, that is, classes that can be uniquely defined in terms of a single conjunction of features."

One of the recent trends in distinctive feature theory, namely 'feature geometry', suggests that certain features regularly function together and hence they should be grouped into constituents. For example, place features such as [labial, coronal, and dorsal] are grouped under the head [Place Feature] (see Diagram 1). This model draws on the assumption that phonological processes are described more simply by reference to a single element either a feature, e.g., [labial] or [voiced], or the head of a constituent, e.g., [Place] (Hume and Winters, 2006; see also McCarthy and Smith,2003)[(4)]. Building on the suggestions and predictions of this model we gather that the assimilation pattern of / l / in the definite article (ʔal-) in MA involves one constituent of the place feature which is [coronal].

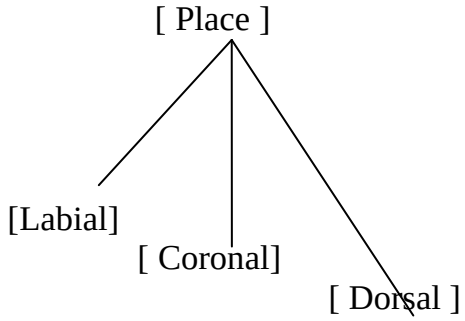

Diagram1 : Feature Geometry of Place Feature (after Hume and Winters, 2006)

6. Conclusion

As the previous analysis and discussion revealed the /dʒ/ in SA is the only lunar letter [+ coronal], before which /l/ of the definite article (ʔal-) does not assimilate. MA has revealed deviation in the assimilation pattern of /l / from that attested in SA since both / tʃ / and /dʒ/ are also involved in this assimilation pattern.

The behavior of coronal sounds demonstrated in this study is not unique to Arabic, it has thus been reported that coronal sounds have a special status in the phonologies of different languages (see, for example, Paradis and Prunet (1991), and McCarthy and Taub, 1992). Coronal sounds are claimed to be unmarked consonants in that they occur frequently in speech, have freer distribution than non-coronals, susceptible to place assimilation, occasionally appear via epenthesis, and transparent to vowel-vowel assimilation (i.e. vowel harmony). These claims about the special status and behavior of coronals provide a fertile area of research and investigation. Future studies may examine these claims with respect to coronal consonants in Arabic to prove or defy them.

In conclusion we get that analyzing sounds by means of their distinctive features helps us account for a wide range of phonological phenomena among of which is the assimilation pattern of / l / in the definite article in Arabic.

Notes

1. The feature "dorsal" has been added to the place of articulation features and features such as [mid], [tense], [front], [spread] and [constricted] glottis have been dropped.

2. "Redundancy " is a term derived from INFORMATION theory and applied to the analysis of the range of features used in making LINGUISTIC contrasts. A FEATURE (of sound, GRAMMAR, etc.) is redundant if its presence is unnecessary in order to identify a linguistic unit." (Crystal, 1991:292) In the matrix of distinctive features given in Appendix 2 the redundant feature has been marked with (0).

3. Natural classes of segments are "classes defined by some unitary, independently motivated phonetic parameter."(Anderson, 1985: 211) (see Crystal,1991: 230f and Trask, 1996: 235, for further definitions of natural classes).

4. Within Auto-segmental phonology, non-linear phonology, all assimilation processes involve spreading of distinctive features. Thus," [a] distinctive feature may initially be confined to a single segment, but an assimilation process extends the scope of that feature to include one or more additional segments." (McCarthy and Smith, 2003: 322). See also Abu-Salim (1988).

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	Phrases	**Transcription**	**Glossary**
1.	من السما	/mannissama /	**(Gift from heaven)**
2.	عيد الجيش	/ ʕi:didʒdʒayʃ/	**(Army Day)**
3.	چاي ابو الهيل	/tʃa:yʔabu:lhe:l /	**(Tea with cardamom)**
4.	غسلتو بالگيل	/ɣasalitu:bilgi:l/	**(She washed it with mud)**
5.	أبو الغاز	/ʔabu:lɣa:z /	**(Man selling gas cylinders)**
6.	جا التموين	/dʒa:ttamwi:n/	**(Food/substance was brought)**
7.	ركب الجمل	/ rikibildʒamal/	**(He rode the camel)**
8.	عاب هل االچهرة	/ ʕa:bhatʃtʃahra /	**(How awful you look!)**
9.	بالشهغ مرة	/ bilʃahiɣmarra /	**(Once per month)**
10.	كانوا بالمول	/ka:nu:bilmo:l/	**(They were in the mall)**
11.	مايحب العصير	/ma:yħibbilʕasi:r/	**(He doesn't like juice)**
12.	بالكندور	/bilkando:r/	**(In the cupboard)**
13.	تعجبوا الپاچة	/tiʕdʒibu:lpa:tʃa/	**(He likes Patcha)**
14.	عل الدغيج	/ʕaddaɣayyidʒ/	**(On the steps)**
15.	طلعوا الجبل	/talaʕu:dʒdʒabal/	**(They climbed the mountain)**
16.	فوق التل	/fo:qittal/	**(Up the hill)**
17.	شيش الكباب	/ʃi:ʃilkaba:b/	**(Skewer of Kebab)**
18.	فغشت الچرچف	/faɣaʃititʃtʃartʃaf/	**(She put the linen on bed)**
19.	بالوحدي ونص	/bilwiħdi wniss/	**(At one and a half)**
20.	الساعة سبعة	/ʔissa:ʕa sabʕa/	**(It's seven o'clock)**
21.	مثل الحيي والنعناع	/miθlilħayyiwinnʕna:ʕ/	**(Like a snake and mint)**
22.	يعجبوا الچرز	/yiʕdʒibu:tʃtʃaraz/	**(He likes nuts)**
23.	طلعوا عالچول	/talaʕu:ʕa tʃtʃo:l/	**(They went to the country)**
24.	بسبوسة بالقشطة	/basbu:sabilqiʃta/	**(Basbusa with whipped cream)**
25.	حرف الجيم	/ħarfidʒdʒi:m/	**(The Jiim Letter)**
26.	حوش الخان	/ħo:ʃilχa:n/	**(Al-khan stable)**
27.	جا بالپاص	/dʒa:bilpa:s/	**(He came by bus)**

28.	عثغ بالسطل	/ ʕiθiɣbissatil /	**(He slipped on the bucket)**
29.	يقطع القلب	/yiqtaʕilqalib /	**(He is so slow)**
30.	خليتونو بالجزدان	/χalle:tu:nubidʒdʒizda:n/	**(I put it in the wallet)**
31.	علق اللمبة	/ʕalaqillampa /	**(He lit the lamp)**
32.	بالصاص والكچب	/ bissa:swilkatʃab /	**(With ketchup and sauce)**
33.	بدل التاية	/ baddalitta:ya /	**(He changed the tyre)**
34.	اخذ الچولة	/ ʔaχaðitʃtʃu:la /	**(He took the primus)**
35.	برياني بالگازو	/ birya:ni:bilgа:zo: /	**(Biryani with cashew nuts)**
36.	سمبوسك بالجبن	/ sambu:sakbidʒdʒibin /	**(Sambusak with cheese)**
37.	قصت البرچم	/ qassitilpartʃam /	**(She cut the lock)**
38.	صدغ الجيج	/ sadɣidʒdʒe:dʒ /	**(Chicken breast)**
39.	نص الچارك	/ nissitʃtʃa:rig /	**(Half of a quarter)**
40.	الله الشافي	/ ʔalla:ʃʃa:fi: /	**(Allah is the one who cures)**

Appendix 1

Table1: Data Used in the Elicitation Process.

	syll	cons	son	cont	delrel	stri	nas	lat	distr	voice	high	back	ant	lab	cor	dors	low
*p	-	+	-	-	-	-	-	-	+	-	-	-	+	+	-	-	-
b	-	+	-	-	-	-	-	-	+	+	-	-	+	+	-	-	-
m	-	+	+	-	0	-	+	-	+	+	-	-	+	+	-	-	-
f	-	+	-	+	0	+	-	-	-	-	-	-	+	+	-	-	-
θ	-	+	-	+	0	+	-	-	-	-	-	-	+	-	+	-	-
ð	-	+	-	+	0	+	-	-	-	+	-	-	+	-	+	-	-
ð	-	+	-	+	0	+	-	-	-	+	+	+	+	-	+	-	-
t	-	+	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-
ṭ	-	+	-	-	-	-	-	-	-	-	+	+	+	-	+	-	-
d	-	+	-	-	-	-	-	-	-	+	-	-	+	-	+	-	-
** ḍ	-	+	-	-	-	-	-	-	-	+	+	+	+	-	+	-	-
s	-	+	-	+	0	+	-	-	-	-	-	-	+	-	+	-	-
ṣ	-	+	-	+	0	+	-	-	-	-	+	+	+	-	+	-	-
z	-	+	-	+	0	+	-	-	-	+	-	-	+	-	+	-	-
n	-	+	+	-	0	-	+	-	-	+	-	-	+	-	+	-	-
l	-	+	+	+	0	-	-	+	-	+	-	-	+	-	+	-	-
r	-	+	+	+	0	-	-	-	-	+	-	-	-	-	+	-	-
ʃ	-	+	-	+	0	+	-	-	+	-	-	-	-	-	+	-	-

*tʃ	-	+	-	-	+	+	-	-	+	-	-	-	-	-	+	-	-
dʒ	-	+	-	-	+	+	-	-	+	+	-	-	-	-	+	-	-
j	-	+	+	+	0	-	-	-	+	+	+	-	-	-	-	-	-
w	-	+	+	+	0	-	-	-	+	+	+	+	-	+	-	+	-
k	-	+	-	-	-	-	-	-	-	-	+	+	-	-	-	+	-
*g	-	+	-	-	-	-	-	-	-	+	+	+	-	-	-	+	-
q	-	+	-	-	-	-	-	-	-	-	+	+	-	-	-	+	-
χ	-	+	-	+	0	+	-	-	-	-	+	+	-	-	-	+	-
ɣ	-	+	-	+	0	+	-	-	-	+	+	+	-	-	-	+	-
ḥ	-	+	-	+	0	+	-	-	0	-	-	+	-	-	-	0	+
ʕ	-	+	-	-	0	+	-	-	0	+	-	+	-	-	-	0	+
ʔ	-	+	-	-	-	-	-	-	0	-	0	0	-	-	-	0	+
h	-	+	-	+	0	-	-	-	0	-	0	0	-	-	-	0	+

Appendix 2

Table 2: Distinctive Features Matrix of Consonants in Standard Arabic and Mosuli Arabic

(*) The asterisk on a sound indicates that this sound is found only in Mosuli Arabic.

(**) The double asterisk on a

وت الـ / l / في أداة التعريف في الموصلية العربية: ابتعاد عن قواعد المماثلة الصوتية في العربية الفصحى

م.أنمار حمودي سعيد

المستخلص

يتغير صوت الـ / l / في أداة التعريف في العربية الفصحى(ال) تغيرا تاما بأخذ الصفات الصوتية لبعض الأصوات التي تبدأ بها الأسماء والصفات التي تضاف إليها أداة التعريف. وتدعى هذه الأصوات الصحيحة بالحروف الشمسية تمييزا لها عن الحروف القمرية التي لاتؤثر في صوت الـ l // . وبهدف الوصول إلى طبيعة هذه المماثلة الصوتية, تم تحليل أصوات كل صنف إلى صفاتهم الصوتية المميزة وتبين أن الصفة المشتركة بين أصوات الصنف الأول والتي تضم ١٤ صوتا (من الحروف الشمسية) هو [coronal+], أي أصوات تنطق بطرف اللسان ويستثنى من هذه الأصوات صوت الـ /dʒ/ الذي يسلك سلوك الحروف القمرية. وتتبنى الدراسة الحالية اختبار الفرضية أن اللهجة الموصلية تفرض قيودا أقل على الأصوات التي تغير صوت الـ / l/ في أداة التعريف بأن كل الأصوات التي تنطق بطرف اللسان بدون استثناء, بضمنها صوتي الـ /dʒ/ و الـ / tʃ /, تغير صوت الـ / l/ الى صفاتها الصوتية. وأظهرت نتائج تحليل البيانات المستخدمة في الدراسة ان صوت الـ / l / في اللهجة الموصلية يتغير إلى أي من هذه الأصوات عندما تلحق به مختلفة بذلك عن العربية الفصحى التي تفرض قيودا على مماثلة صوت الـ /l/ حين يتبعه صوت الـ / dʒ /. يستخلص من هذه الدراسة أن تحليل الأصوات إلى صفاتها الصوتية المميزة يساعد في تفسير الكثير من الظواهر الصوتية ومن ضمنها أنماط المماثلة الصوتية في الأصوات الصحيحة.