

A Descriptive Study of Mosuli Arabic Consonants According to Distinctive Feature Theory

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Abstract:The present study describes Mosuli Arabic consonants according to Distinctive Feature Theory. It tries to describe these consonants one by one according to the following features : Major Class Features which can be divided into Consonantal, Sonorant and Syllabic. The second one is Laryngeal Features which also can be divided into Voice, Closed Glottis (CG) and Spread Glottis (SG) . Place Feature is the third class, it has categories which are Labial, Round, Coronal, Anterior and Strident . The forth class is Dorsal which has High, Back and Low categories. The final one is Manner class which is divided into Nasal, Continuant, Lateral and Delayed Release. What is worth mentioning is that we gave many examples in this study and all the consonants in these examples are shown according to distinctive oppositions. They are arranged according to the positions of consonants, transcribed and translated.

وصف الاصوات الصحيحة في اللهجة الموصلية حسب نظرية السمة المميزة

الملخص: تتناول الدراسة الحالية وصف الاصوات الصحيحة في اللهجة الموصلية حسب نظرية السمة المميزة ، تحاول الدراسة وصف هذه الاصوات حسب صفات التالية: الصفات الرئيسية والتي يمكن ان تقسم الى الاصوات الساكنة - الرنانة والمقطعية والنوع الثاني هو صفات الحلقية والتي يمكن ايضا ان تقسم الى الجهرية و CG (closed, glottis) تكون فتحة المزمار مغلقة مما يحدث اهتزازا في الاوتار الصوتية و SG (spread , gLattis) تكون فتحة المزمار مفتوحة ولا تحدث اهتزازا في الاوتار الصوتية اما النوع الثالث هو صفات المكان والتي تقسم الى عدة فئات وهي الشفوية والمدورة والتاجية والامامية والشديدة . والنوع الرابع وهو الظهري والذي يقسم الى عدد فئات وهي العالي والحلفي والواطي والنوع الاخير هو صنف اسلوب النطق والذي يقسم الى انفي مستمر جانبي والاطلاق المؤجل او المتأخر . ومن الجدير بالذكر انه تم اعطاء العديد من الامثلة في هذه الدراسة وجميع الاصوات الصحيحة في هذه الامثلة تم تقديمها حسب التضاد المميز . وقد تم ترتيبهم حسب مواقع الاصوات الصحيحة وكتابتهم كتابة صوتية وترجمتهم .

Key Of Mosuli Arabic Sound System

A. Consonants .

/ʔ/ as in :	أسود	/ʔaswad/	black
/b/ as in :	بهاء	/bahɑ:ʔ/	a male name
/p/ as in :	باتري	/pɑ:tri/	battery
/t/ as in :	تبل	/tabal/	marble
/θ/ as in :	ثوم	/θu:m/	garlic
/dʒ/ as in :	جمل	/dʒamal/	camel
/tʃ/ as in :	چاي	/tʃɑ:j/	tea
/ħ/ as in :	حبل	/ħabil/	rope
/x/ as in :	خبز	/xibiz/	bread
/d/ as in :	دين	/di:n/	religion
/ð/ as in :	ذرى	/ðura/	a female name
/r/ as in :	رنا	/rana/	a female name
/z/ as in :	زيت	/ze:t/	oil
/s/ as in :	سهى	/suha/	a female name
/ʃ/ as in :	شهم	/ʃahim/	a male name
/ʂ/ as in :	صابون	/ʂɑ:bu:n/	soap
/tʃ/ as in :	طيارة	/tʃajjɑ:ra/	plane
/ð/ as in :	ظفر	/ðafar/	a female name
/ʕ/ as in :	عين	/ʕein/	eye
/ɣ/ as in :	غبي	/ɣabi/	stupid
/f/ as in :	فهد	/fahad/	a male name
/q/ as in :	قابوط	/qɑ:pu:t/	coat
/k/ as in :	كلب	/kalb/	dog
/g/ as in :	كلاص	/glɑ:ʂ/	glass
/l/ as in :	لهانة	/lahɑ:na/	cabbage
/m/ as in :	مدرسي	/madrasi/	school
/n/ as in :	نبي	/nabi/	prophet
/h/ as in :	هدى	/huda/	a female name
/w/ as in :	وغد	/waxid/	flowers
/j/ as in :	يسرى	/jusra/	a female name

B. Vowels

1- Short vowels

/i:/ as in :	خبز	/xibiz/	bread
/a/ as in :	احمر	/ʔaħmar/	red
/u/ as in :	هدهد	/hudhud/	hoopoe

2- Long vowels

/i:/ as in :	دين	/di:n/	religion
/e:/ as in :	كيك	/ke:k/	cake
/ɑ:/ as in:	نام	/nɑ:m/	sleep (for masc. sing.)
/u:/ as in :	ثوم	/θu:m/	garlic
/ɔ:/ as in :	روب	/rɔ:b/	robe

1. Introduction

Distinctive features theory had been established by Roman Jakobson then elaborated by Morris Hale (see: Wilson , 1972:351) . The phonological form of any word contains a sequence of phonemes where each phoneme contains a set of simultaneous distinctive features. So distinctive features, are simultaneous components of a single phoneme (see: Catford, 1994:201).

Distinctive features are defined by other Linguists, Lyons(1976:233) for instance, says that the phonemes of a language are not the minimal units of the sound system but contain sets of components, i.e. : distinctive features, which can be called functional, or significant features (see: ALkhuli, 2002:179). While Roach (2010:102) says that phonemes should be regarded as combinations of distinctive features.

Aitchison (1987:51) argues that the linguistic term which is used for "component" of a phoneme is the word feature . Any feature which distinguishes one phoneme from another is called a distinctive features. However, all the previous definitions concentrate on a fact that these features help to distinguish one phoneme from another (see: Akmajian etal. , 2001:111).

Contrast between the presence and absence of a feature is called an opposition. Some pairs of phonemes differ by only one opposition while other differ by more than one (see: Robins, 1976:155). Linguists use (+) and (-) to refer to presence and absence of the features (see: Lyons, 1972 : 123; Fromkin and Rodman, 1983: 75; Leech and cook, 1986: 95; Aitchison, 1987: 51; AKmajian etal., 2001:114 and Roach,2010:102).

In terms of phonetic features, any specialist can easily describe and identify any speech sound in any language because there is a universal set of phonetic feature is proposed by phonologists. Hence, Mosuli Dialect¹ which is the realm of this study- does not lie out of the circle of this theory, it is subdued to its rules.

The features which will be used in describing Mosuli Arabic Consonants (MAC) are : Major Calss features which – in their role – can be divided into three categories : Consonantal, Sonorant, and Syllabic. The second class is called Laryngeal features which also can be divided into three categories : Voice , CG and SG^{**}. While the third class, Place features, can be divided into five categories : Labial , Round , Coronal , Anterior and Strident. The fourth class is

* Mosuli Dialect : is a dialect used by over two million persons living in Mosul. Though it is an Arabic Dialect yet it clearly differs from other dialects in Iraq phonologically, lexically and grammatically (see: Sa'eed, 1998:15 and Sa'eed, 2006:69f)

^{**} CG (closed glottis) and SG (spread glottis).

Dorsal which has three categories, High, Back and Low. Finally, Manner Class is divided into four categories : Nasal , Continuant , Lateral and Delayed release (for further details see: Smith, 1973:137ff; Hyman, 1975:42ff; Liles, 1975:229; Lehman, 1976:19ff; Jacobson and Waugh, 1979:125ff; Crystal, 1994 and Bauman-Waengler, 2009:256ff).

2- The Aim

This study is an attempt to describe MAC according to distinctive features theory.

3- Data Collection and Methodology.

The data needed for this study have been collected from groups of people from different genders and ages whose dialect is sound Mosuli.

The words which have the desired sounds are divided according to the Distinctive Feature Theory. All the sounds are given their distinctive oppositions.

They are arranged according to the positions of sounds i.e. initial, middle and final. There are some rare exceptions where some sound have been found to be very difficult due to the distribution of position – as a result some sounds came to be presented in two positions and sometimes in one. This appears clearly in the case of / p / . What is worth mentioning is that all the given examples are transcribed and translated.

Again there is another problem, now presented in the origin of words where very few of them are standard in their origin and now became a part of Mosuli Dialect. This may have been due to the variety of cultural media. For example /ʃɑ:ð/ "irregular", /maʔɑ:r/ "airport", /kaʔIs/ "trophy" and so on.

4- Analysis and Finding

Mosuli Dialect has thirty consonant phonemes (see: Rahim and Farjo, 1985). All these phonemes will be described except /tʃ/ and /g/ because of their rare use in Mosuli Dialect. Through the description we shall allude to their features. What is worth mentioning is that all consonants are [-]syllabic. Hence there is no need to repeat ourselves when describing a consonant.

4.1. The Phoneme /p/.

The phonological identity of the phoneme /p/ is based on the following distinctive oppositions:

4.1.1. Major Class Features.

- a) Consonantal [+ / -] p/w as in: /parda/ ² - /warda/ ; /tappi/ - /tawwi/.
- b) Sonorant [- / +] p/r as in: /pi:m/ - /ri:m/.

4.1.2. Laryngeal Features.

- a) Voice [- / +] p/dʒ as in: /pi:m/ - /dʒi:m/.

- b) CG [- / +] p/? as in: /piskit/ - /ʔiskit/.
- c) SG [- / +] p/h as in: /pam/ - /ham/.

4.1.3. Place Features.

- a) Labial [+ / -] p/h as in: /pu:t/ - /hu:t/
- b) Round [- / +] p/w : (see the same examples in 4.1.1./a)
- c) Coronal[- /+] p/dʒ :(see the same examples in 4.1.2./a)
- d) Anterior[+/-] p/w : (see the same examples in 4.1.1./a)
- e) Strident[-/+] p/dʒ : (see the same examples in 4.1.1./a)

4.1.4. Doral.

- a) High [- /+] p/w (see the same examples in 4.1.1./a)
- b) Low [- /+] p/ h (see the same examples in 4.1.3./a)
- c) Back [- /+] p/ ɣ as in: /pam/ - /ɣam/

4.1.5. Manner.

- a) Nasal[- /+] p/m as in: /pi:m/ - /mi:m/
- b) Continuant[- /+] p/r (see the same examples in 4.1.1./b)
- c) Lateral [- /+] p/l as in: /pɑ:s/ - /lɑ:s/
- d) Delayed release[- /+] p/dʒ(see the same examples in 4.1.2./a)

4.2. The Phoneme /b/.

The phonological identity of the phoneme /b/ is based on the following distinctive oppositions:

² The meaning of the words will be shown in the appendix.

4.2.1. Major Class Features.

- a) Consonantal [+ /-] b/j as in: /bɑ:ʔ/ - /jɑ:ʔ/ ; /txabbal/- /txajjal/; /bɑ:b/- /bɑ:j/.
- b) Sonorant [- /+] b/n as in: /bɑ:b/ - /nɑ:b/ ; /ħibbi/- /ħinni /; /bɑ:b/- /bɑ:n/.

4.2.2. Laryngeal Features.

- a) Voice [+ /-] b/ʔ as in: /bɑ:b/ - /tɑ:b/ ; /ʔibi:ʕ/- /ʔiti:ʕ/; /ħab/- /ħaʔ/.
- b) CG[- /+] b/ʔ as in: /bɑ:b/ - /ʔɑ:b/ ; /kabis/- /kaʔis/; /sabab/-/ sabaʔ/.
- c) SG[- /+] b/h as in: /bɑ:ʔ/ - /hɑ:ʔ/ ; /qabix/- /qahix/; /wɑ:ɖʒib/-/ wɑ:ɖʒih/.

4.2.3. Place Features.

- a) Labial [+ / -] b/ð as in: /bɑ:b/ - /ðɑ:b/ ; /ʔibi:ʕ/- /ʔiði:ʕ/; /ʃab/-/ ʃað /.
- b) Round [- / +] b/w as in: /waxid/ - /baxid/ ; /qibi /- /qiwi/; /ðab/-/ ðaw/.
- c) Coronal[- /+] b/n : (see the same examples in 4.2.1./b)
- d) Anterior[+/-] b/x as in: /bɑ:b/ - /xɑ:b/ ; /jibli: /- /jixli/; /tɑ:b/-/ tɑ:x/.
- e) Strident [- /+] b/f as in: /bɑ:ʔ/ - /fɑ:ʔ/ ; /tabal/- /tafal/; /tɑ:b /- /tɑ:f/.

4.2.4. Dorsal.

- a) High [- /+] b/j (see the same examples in 4.2.1./a)
- b) Low[- /+] b/ ħ as in: /bɑ:ʔ/ - /ħɑ:ʔ/ ; /ʔiʃrab/- /ʔiʃrah/.

- c) Back[- /+] b/ ħ (see the same examples in 4.2.4./b).

4.2.5. Manner.

- a) Nasal[- /+] b/n : (see the same examples in 4.2.1./b)
- b) Continuant[- /+] b/ð : (see the same examples in 4.2.3./a)
- c) Lateral [- /+] b/l as in: /bɑ:b / - /lɑ:b/; /ħabi:b/-/ ħali:b /; /tɑ:b/- /tɑ:l/.
- d) Delayed release[- /+] b/ɖʒ as in: /bɑ:b / - /ɖʒɑ:b/; /sabaq/-/sadʒaq /; /ɖʒe:b/-/ɖʒe:ɖʒ/.

4.3. The phoneme /t/.

The phonological identity of the phoneme /t/ is based on the following distinctive oppositions:

4.3.1. Major Class Features.

- a) Consonantal [-/+] t/j as in: /tɑ:ʔ/ - /jɑ:ʔ/ ; /jitxattal/- /jitxajjal /; /bɑ:t/- /bɑ:j/.
- b) Sonorant [- /+] t/n as in: /tɑ:b/ - /nɑ:b/ ; /ʔaʃitr:d/- /ʔaʃinr:d/; /bɑ:t/-/bɑ:n/.

4.3.2. Laryngeal Features.

- a) Voice [- /+] t/b as in: /tɑ:ʔ/ - /bɑ:ʔ/ ; /jitli/- /jibli/; /bɑ:t/-/bɑ:b/.
- b) CG[- /+] t/ʔ as in: /tubin/ - /ʔubin/ ; /ʔaʃtɑ:kil/- /ʔaʃɑ:kil/; /bɑ:t/-/ bɑ:ʔ/.
- c) SG[- /+] t/h as in: /tal/ - /hal/ ; /sitix/- /sihix/; /banɑ:t/-/banɑ:h/.

4.3.3. Place Features.

- a) Labial [- /+] t/b : (see the same examples in 4.3.2./a)

- b) Round [- /+] t/w as in: /tal/ - / wal /
; /ʔistɑ:ɾa/- /ʔiswɑ:ɾa/; /dʒat/-/dʒaw/.
- c) Coronal [+/-] t/h : (see the same examples in 4.3.2./a)
- d) Anterior [+/-] t/j : (see the same examples in 4.3.1./a)
- e) Strident [- /+] t/f as in: /taham/ - / faham / ; /zattu:nu/- / zaffu:nu /; /zat /-/ zaf /.

4.3.4. Dorsal.

- a) High [- /+] t/k as in: /tal/ - / kal / ; /sitɪɾ /- / sikɪɾ /; / ʔitʃajjit /- / ʔitʃajjik /.
- b) Low[- /+] t/ʔ (see the same examples in 4.3.2./b)
- c) Back[- /+] t/k (see the same examples in 4.3.4./a).

4.3.5. Manner.

- a) Nasal[- /+] t/n (see the same examples in 4.3.1./b)
- b) Continuant[- /+] t/f (see the same examples in 4.3.3./a)
- c) Lateral [- /+] t/l as in: /ti:n/ - /li:n/; /sattu/-/ sallu /; /bɑ:t/-/ba:l/.
- d) Delayed release [- /+] t/dʒ as in: /tɑ:b / - /dʒɑ:b/; /jitli/-/jidʒli/; /bɑ:t/-/bɑ:dʒ/.

4.4. The phoneme /t/.

The phonological identity of the phoneme / t / is based on the following distinctive oppositions:

4.4.1. Major Class Features.

- a) Consonantal [+ /-] t/j as in: / tɑ:b/ - /jɑ:b/ ; /maɾɑ:r/- / majɑ:r/; /ħat/-/ħaj/.
- b) Sonorant [-/+] t/n as in: /tɑ:ɾ/ - /nɑ:ɾ/ ; /jitwi/- / jinwi /; / ħat /- / ħan/.

4.4.2. Laryngeal Features.

- a) Voice [+ /-] t/n (see the same examples in 4.4.1./b)
- d) CG[- /+] t/ʔ as in: /tɑ:b/ - /ʔɑ:b/ ; /ʔinsatɑl/- / ʔinsaʔal /; /lat/-/ laʔ/.
- e) SG[- /+] t/h as in: /tawɑ/ - / hawɑ / ; /jitwi/- / jihwi /; /ʃɑ:t/- / ʃɑ:h/.

4.4.3. Place Features.

- a) Labial [- /+] t/h (see the same examples in 4.2.2./a)
- b) Round [- /+] t/w as in: /tɑɾaf/ - / wɑɾaf / ; /jiʃti/- / jiʃwi/; /bat/-/ baw/.
- c) Coronal [+/-] t/b (see the same examples in 4.2.2./a)
- d) Anterior [+/-] t/j (see the same examples in 4.4.1./a)
- e) Strident [- /+] t/dʒ as in: /tɑ:b/ - /dʒɑ:b/ ; /ʔiti:b/- / ʔidʒi:b /; / ħat /- / ħadʒ/.

4.4.4. Dorsal.

- a) High [- /+]t/dʒ (see the same examples in 4.4.3./e)
- b) Low[+ /-] t/n (see the same examples in 4.4.1./b)
- c) Back[- /+] t/n (see the same examples in 4.4.1./b).

4.4.5. Manner.

- a) Nasal[- /+] t/n (see the same examples in 4.4.1./b)
- b) Continuant[- /+] t/j (see the same examples in 4.4.1./a)
- c) Lateral [- /+] t/l as in: /ti:n/ - /li:n/; /ħaṭab/-/ ħalab /; /ħaṭ/- / ħal/.
- d) Delayed release [- /+] t/dʒ (see the same examples in 4.4.3./e)

4.5. The phoneme /d/.

The phonological identity of the phoneme / d / is based on the following distinctive oppositions:

4.5.1. Major Class Features.

- a) Consonantal [+ /-] d/h as in: / dawa / - / hawa / ; /jidwi /- / jihwi /.
- b) Sonorant [-/+] d/l as in: /di:n/ - / li:n / ; /saddu:nu/- / sallu:nu /; / xad /- / xal/.

4.5.2. Laryngeal Features.

- a) Voice [+ /-] d/s as in: /di:n/ - /si:n/ ; /ʔaddam/-/ ʔassam/; /xad/-/ xas/.
- b) CG[- /+] d/ʔ as in: /dabki/ - /ʔabki/ ; /ħa:d/- /ħa:ʔ/.
- c) SG[- /+] d/h : (see the same examples in 4.5.1./a)

4.5.3. Place Features.

- a) Labial [- /+] d/f as in: /xad / - / xaf / ; /jidlaʃ/- / jiflaʃ /; /xad/-/ xaf/.
- b) Round [- /+] d/w as in: /dallu/ - / wallu / ; / jihdi /- /jihwi/; /dʒad/-/ dʒaw /.
- c) Coronal [+/-] d/h : (see the same examples in 4.5.1./a)
- d) Anterior [+/-] d/h : (see the same examples in 4.5.1./a)

- e) Strident [- /+] d/f : (see the same examples in 4.5.3./a)

4.5.4. Dorsal.

- a) High [- /+]d/ʃ as in: /dawa/ - / ʃawa / ; / ʔidil/- / ʔiʃil /; /ʃi:d/-/ ʃi:ʃ/.
- b) Low[+ /-] d/ʂ as in: /di:n/ - / ʃi:n / ; / jidbiʁ/- / jiʃbiʁ /; /xad/-/ xas/.
- c) Back[- /+] d/ʂ (see the same examples in 4.5.4./b).

4.5.5. Manner.

- a) Nasal[- /+] d/n as in: /dawa/ - / nawa /; /dʒiddi/-/ dʒinni /; /dʒid/-/ dʒin/.
- b) Continuant[- /+] d/ʂ (see the same examples in 4.5.4./b)
- c) Lateral [- /+] d/l (see the same examples in 4.5.1./b)
- d) Delayed release [- /+] d/dʒ as in: /daʁxab/ - / dʒaʁxab /; /tidmaʃ/-/ tidʒmaʃ /; /baʃad/-/ baʃadʒ/.

4.6. The phoneme /k/.

The phonological identity of the phoneme / k / is based on the following distinctive oppositions:

4.6.1. Major Class Features.

- a) Consonantal [+ /-] k/w as in: / kal / - / wal / ; /ʔikadiʁ /- / ʔiwadiʁ /; / malak /- / malaw /.
- b) Sonorant [-/+] k/m as in: / kal / - / mal / ; /nakkas/- / nammas /; / lɑ:k /- / lɑ:m/.

4.6.2. Laryngeal Features.

- a) Voice [+ /-] k/z as in: /kaf/ - / zaf / ; /ʔaki:d/- / ʔazi:d /; /fak/-/ faz/.

- b) CG[- /+] k/? as in: /kab/ - /?ab/ ;
/rɑ:kid/- / rɑ:ʔid /; /sabak/-/
sabaʔ/.
- c) SG[- /+] k/h as in: /karam/ - /
haram / ; /mukmil/- /muhmil/;
/ʔiʃawwik/-/ ʔiʃawwih/.

4.6.3. Place Features.

- a) Labial [- /+] k/m : (see the same
examples in 4.6.1./b)
- b) Round [- /+] k/w : (see the same
examples in 4.6.1./a)
- c) Coronal [- /+] k/ʃ as in: /kir/ - /
ʃir/ ; / ʔaki:d/- / ʔaʃi:d /; /fak/-/
faʃ/.
- d) Anterior [- /+] k/ʃ : (see the same
examples in 4.6.3./c)
- e) Strident [- /+] k/ʃ : (see the same
examples in 4.6.3./c)

4.6.4. Dorsal.

- a) High [+ /-] k/ʃ : (see the same
examples in 4.6.3./c)
- b) Low [- /+] k/h (see the same
examples in 4.6.2./c)
- c) Back[+ /-] k/z (see the same
examples in 4.6.2./a).

4.6.5. Manner.

- a) Nasal [- /+] k/m (see the same
examples in 4.6.1./b)
- b) Continuant [-/+] k/ʃ (see the same
examples in 4.6.3./c)
- c) Lateral [- /+] k/l as in: /kaf/ - / laf
/; /fakka/-/ falla /; /dak/-/ dal/.
- d) Delayed release [- /+] k/dʒ as in:
/fak/ - / faɖʒ/; /ʔikammil/-/
ʔidʒammil /; /lɑ:k/-/ lɑ:ɖʒ/.

4.7. The phoneme /q/.

The phonological identity of the phoneme / q / is based on the following distinctive oppositions:

4.7.1. Major Class Features.

- a) Consonantal [+ /-] q/w as in:
/qalam/ - / walam / ; /saqa /- / sawa
/; / baq /-/ baw /.
- b) Sonorant [-/+] q/w (see the same
examples in 4.7.1./a).

4.7.2. Laryngeal Features.

- a) Voice [+ /-] q/w (see the same
examples in 4.7.1./a).
- b) CG[- /+] q/? as in: /qalam/ -
/ʔalam/ ; /masqu:l/-/ masʔu:l/;
/sabaq/-/ sabaʔ/.
- c) SG[- /+] q/h as in: /qɑ:la/ - / hɑ:la /
;/saqa/- / saha /; /ʃawwaq/-/
ʃawwah /.

4.7.3. Place Features.

- a) Labial [- /+] q/w (see the same
examples in 4.7.1./a)
- b) Round [- /+] q/w (see the same
examples in 4.7.1./a)
- c) Coronal [- /+] q/s as in: /qalam/ -
/ salam / ; /waqaʃ /- /wasaʃ /;
/baq/-/ bas /.
- d) Anterior [-/+] q/s (see the
same examples in 4.7.3./c)
- e) Strident [- /+] q/s (see the
same examples in 4.7.3./c)

4.7.4. Dorsal.

- a) High [- /+] q/w (see the same
examples in 4.7.1./a)

- b) Low [- /+] q/h as in: /qalam/ - /
halam /; /zaqzaq/-/ zaqzaḥ/.
- c) Back[+ /-] q/s (see the same
examples in 4.7.3./c)

4.7.5. Manner.

- a) Nasal [- /+] q/n as in: /qajjim/ - /
najjim/; /baqa/-/ bana /; /nu:q/-/
nu:n/.
- b) Continuant [-/+] q/w (see the
same examples in 4.7.1./a)
- c) Lateral [- /+] q/l as in: /qɑ:m/ - /
lɑ:m /; /zaqzaq/-/ zalzal/.
- d) Delayed release [-/+] q/dʒ as in:
/qirdi/ - / dʒirdi /; /waqaʃ/-/
wadʒaʃ /; /ʔiwaqwiq/-/
ʔiwadʒwidʒ/.

4.8. The phoneme /ʔ/.

The phonological identity of the phoneme / ʔ / is based on the following distinctive oppositions:

4.8.1. Major Class Features.

- a) Consonantal [+ /-] ʔ/h as in:
/ʔadab/ - / hadab /; /ʔasʔal/- /
ʔashal /; / tɑ:ʔ /-/ tɑ:h /.
- b) Sonorant [-/+] ʔ/j as in: /ʔɑ:b/ - /
jɑ:b /; /fɑ:ʔiz /- / fɑ:jiz /; / tɑ:ʔ /-/
tɑ:j/.

4.8.2. Laryngeal Features.

- a) Voice [+ /-] ʔ/b (see the same
examples in 4.2.2./b).
- b) CG[+ /-] ʔ/b (see the same
examples in 4.2.2./b)
- c) SG[- /+] ʔ/h (see the same
examples in 4.2.2./c)

4.8.3. Place Features.

- a) Labial [- /+] ʔ/b (see the same
examples in 4.2.2./b)
- b) Round [- /+] ʔ/w as in: /ʔalam/ - /
walam /; /sɑ:ʔa /- / sɑ:wa /;
/fɑ:ʔ /-/ fɑ:w /.
- c) Coronal [- /+] ʔ/t (see the same
examples in 4.4.2./b)
- d) Anterior [-/+] ʔ/t (see the same
examples in 4.4.2./b)
- e) Strident [- /+] ʔ/f as in: /ʔu:ti/ - /
fu:ti /; /ʔasʔal /- / ʔasfal /; /xɑ:ʔ
/-/ xɑ:f /.

4.8.4. Dorsal.

- a) High [- /+] ʔ/k (see the same
examples in 4.6.2./b)
- b) Low [+ /-] ʔ/q (see the same
examples in 4.7.2./b)
- c) Back [- /+] ʔ/q (see the same
examples in 4.7.2./b)

4.8.5. Manner.

- a) Nasal [- /+] ʔ/n as in: /ʔamli/ - /
namli /; /tʔammal/- /
tnammal /; /bɑ:ʔ/-/ bɑ:n /.
- b) Continuant [-/+] ʔ/f (see the same
examples in 4.8.3./e)
- c) Lateral [- /+] ʔ/l as in: /ʔɑ:b/ - /
lɑ:b /; /masʔu:l/-/maslu:l/; /hɑ:ʔ/-/
hɑ:l/.
- d) Delayed release [-/+] ʔ/dʒ as in:
/ʔana/ - / dʒana /; /ʔiʔammil/-/
ʔidʒammil /; /laʔ/-/ laʒ/.

4.9. The phoneme /f/.

The phonological identity of the phoneme / f / is based on the following distinctive oppositions:

4.9.1. Major Class Features.

- a) Consonantal [+/-] **f/h** as in: /fɑ:ʔ/ - / hɑ:ʔ / ; /ʃafqa/- / ʃahqa /; / ʃɑ:f/- / ʃɑ:h /.
- b) Sonorant [-/+] **f/l** as in: /faham/ - / laham/ ; /ʃaffu/- / ʃallu/; / ʃɑ:f/- / ʃɑ:l/.

4.9.2. Laryngeal Features.

- a) Voice [- /+] **f/b** (see the same examples in 4.2.3./e).
- b) CG[- /+] **f/ʔ** (see the same examples in 4.8.3./e)
- c) SG[- /+] **f/h** (see the same examples in 4.9.1./a)

4.9.3. Place Features.

- a) Labial [+/-]**f/t** (see the same examples in 4.3.3./e)
- b) Round [-/+] **f/w** as in: /faz/ - / waz / ; /ʔaffi/- / ʔawwi /; /malaf /- / malaw/.
- c) Coronal [-/+] **f/d** (see the same examples in 4.5.3./a)
- d) Anterior [+/-] **f/ʔ** (see the same examples in 4.8.3./e)
- e) Strident [+/-]**f/ʔ** (see the same examples in 4.8.3./e)

4.9.4. Dorsal.

- a) High [- /+] **f/k** as in: /falla/ - / kalla / ; /ʔafi:d/- / ʔaki:d /; /malaf /- / malak/.
- b) Low [- /+] **f/ʔ** (see the same examples in 4.8.3./e)
- c) Back [- /+] **f/ʔ** as in: /fɑ:ʔ/ - / ʔɑ:ʔ / ; /jiflaʃ/- / jitʃlaʃ /; /ʔaf/- / ʔaʔ/.

4.9.5. Manner.

- a) Nasal [- /+] **f/n** as in: /fɑ:ʔ/ - / nɑ:ʔ /; /ʃafaq/- / ʃanaq /; /xɑ:f/- / xɑ:n /.
- b) Continuant [+/-] **f/b** (see the same examples in 4.2.3./e)
- c) Lateral [- /+] **f/l** (see the same examples in 4.9.1./b)
- d) Delayed release [-/+] **f/dʒ** as in: /fan/ - /dʒan/; /rafaʃ/- /radʒaʃ/; /laf/- / ladʒ/.

4.10. The phoneme /θ/.

The phonological identity of the phoneme / **θ** / is based on the following distinctive oppositions:

4.10.1. Major Class Features.

- a) Consonantal [+/-] **θ/j** as in: /θɑ:ʔ/ - / jɑ:ʔ / ; /jitxaθθax/- / jitxajjax/; / ħaθ/- / ħaj /.
- b) Sonorant [-/+] **θ/l** as in: /θim/ - / lim / ; /ħaθθu/- / ħallu /; / ħaθ/- / ħal /.

4.10.2. Laryngeal Features.

- a) Voice [- /+] **θ/l** (see the same examples in 4.10.1./b).
- b) CG[- /+] **θ/ʔ** as in: /θimu/ - /ʔimu/ ; /jitθallam/- /jitʔallam /; / mxabbaθ/- / mxabbaʔ /.
- c) SG[- /+] **θ/h** as in: /θɑ:ʔ/ - / hɑ:ʔ / ; /laθθitu/- / lahhitu /; /jitʃabbaθ/- / jitʃabbah /.

4.10.3. Place Features.

- a) Labial [- /+] **θ/b** as in: /θɑ:ʔ/ - / bɑ:ʔ / ; /ħabbu/- / ħaθθu /; /ħab/- / ħaθ /.

- b) Round [-/+] **θ**/w as in: /θaxam/ - /waxam / ; /ʔixaθθir/- /ʔixawwir /; /baθ /- / baw/.
- c) Coronal [+/-] **θ**/w (see the same examples in 4.10.3./b)
- d) Anterior [+/-] **θ**/w (see the same examples in 4.10.3./b)
- e) Strident [- /+] **θ**/f as in: /θα:ʔ/ - /fα:ʔ / ; /laθθitu/- /laffitu/; /xaθ/- /raf/.

4.10.4. Dorsal.

- a) High [- /+] **θ**/k as in: /θα:r/ - /kα:r / ; /jinθir /- / jinkir /; /ħaθ/- /ħak/.
- b) Low [- /+] **θ**/ʔ (see the same examples in 4.10.2./b)
- c) Back [- /+] **θ**/w (see the same examples in 4.10.3./b)

4.10.5. Manner.

- a) Nasal [- /+] **θ**/n as in: /θaxam / - /naxam /; /ħaθθu/- /ħannu /; /ħaθ /- /ħan /.
- b) Continuant [+/-] **θ**/n (see the same examples in 4.10.5./a)
- c) Lateral [- /+] **θ**/l (see the same examples in 4.10.1./b)
- d) Delayed release [-/+] **θ**/dʒ as in: /θi:rα:n/ - / dʒi:rα:n /; /ħaθθu/- /ħadʒdʒu /; /ħaθ/- /ħadʒ/.

4.11. The phoneme /ð/.

The phonological identity of the phoneme / **ð** / is based on the following distinctive oppositions:

4.11.1. Major Class Features.

- a) Consonantal [+ /-] **ð** /j as in: /ðα:b/ - / jα:b / ; /ʕaððab/- /ʕajjab /; / fað/- / faj /.
- b) Sonorant [-/+] **ð**/n as in: / ðα:b / - / nα:b / ; /jiðbaħ/- /jinbaħ/; / ʕað/- / ʕan/.

4.11.2. Laryngeal Features.

- a) Voice [+/-] **ð**/t as in: /ðα:b/ - / tα:b / ; /jiði:ʕ/- / jiti:ʕ /; /ʕα:ð/- / ʕα:t /.
- b) CG[- /+] **ð**/ʔ as in: / ðα:b / - / ʔα:b / ; /jitðammar/- /jitʔammar /; / ʕα:ð /- / ʕα:ʔ /.
- c) SG[- /+] **ð**/h as in: /ðam/ - / ham / ; /jiðwi/- / jihwi /; / ʕα:ð/- / ʕα:h/.

4.11.3. Place Features.

- a) Labial [- /+] **ð**/b (see the same examples in 4.2.3./a)
- b) Round [-/+] **ð**/w as in:/ðahab/- /wahab/; /ħaððar/- /ħawwar /.
- c) Coronal [+/-] **ð**/b (see the same examples in 4.2.3./a)
- d) Anterior [+/-] **ð**/j (see the same examples in 4.11.1./a)
- e) Strident [-/+] **ð**/ʕ as in: /ðam/ - / ʕam / ; /jiðwi/- / jiʕwi /; /ʕað/- / ʕaʕ /.

4.11.4. Dorsal.

- a) High [- /+] **ð**/k as in: /ðal/ - / kal / ; /jinðibiħ /- / jinkibiħ /; /ʕað/- / ʕak/.
- b) Low [- /+] **ð**/h (see the same examples in 4.11.2./c)
- c) Back [- /+] **ð**/k (see the same examples in 4.11.4./a)

4.11.5. Manner.

- a) Nasal [- /+] **ð**/n (see the same examples in 4.11.1./b)
- b) Continuant [+/-] **ð**/b (see the same examples in 4.2.3./a)
- c) Lateral [- /+] **ð**/l as in: /ðɑ:b/ - /lɑ:b /; /ʔiðu:b/-/ ʔilu:b /; /ʃɑ:ð/-/ʃɑ:l /.
- d) Delayed release [-/+] **ð**/dʒ as in: /ðɑ:b / - / dʒɑ:b /; /tʃaððab/-/tʃadʒdʒab /; /fað/-/ fadʒ/.

4.12. The phoneme /ð/.

The phonological identity of the phoneme / **ð** / is based on the following distinctive oppositions:

4.12.1. Major Class Features.

- c) Consonantal [+ /-] **ð** /h as in: /ðawwa/ - / hawwa / ; /naðar/- / nahar /; / ʔaxu:ð/-/ ʔaxu:h /.
- d) Sonorant [-/+] **ð**/n as in: / ðabi / - / nabi / ; /ʔiðawwi/- /ʔinawwi /; / rikað/-/ rikan /.

4.12.2. Laryngeal Features.

- a) Voice [+/-] **ð**/h (see the same examples in 4.12.1./a)
- b) CG[-/+] **ð**/ʔ as in: /ðan/ - /ʔan/ ; /jitðallam/- /jitʔallam/; /xa:ð /-/ xa:ʔ /.
- c) SG[- /+] **ð**/h (see the same examples in 4.12.1./a)

4.12.3. Place Features.

- a) Labial [- /+] **ð**/b as in: /ðaw/ - / baw / ; /ʃaði:d/- / ʃabi:d /; /bɑ:ð/- / bɑ:b/

- b) Round [-/+] **ð**/w as in: /ðalam/ - / walam / ; /ħaðar/- /ħawar/; /ʃað/- / ʃaw /.
- c) Coronal [+/-] **ð**/w (see the same examples in 4.12.3./a)
- d) Anterior [+/-] **ð**/w (see the same examples in 4.12.3./a)
- e) Strident [+/-] **ð**/w (see the same examples in 4.12.3./a)

4.12.4. Dorsal.

- a) High [- /+] **ð**/k as in: /ðal/ - / kal / ; /naðar /- / nakar /; /ʔaxu:ð/-/ ʔaxu:k /.
- b) Low [+/-] **ð**/k (see the same examples in 4.12.4./a)
- c) Back [+/-] **ð**/h (see the same examples in 4.12.1./a)

4.12.5. Manner.

- a) Nasal [- /+] **ð**/n (see the same examples in 4.12.1./b)
- b) Continuant [+/-] **ð**/n (see the same examples in 4.12.1./b)
- c) Lateral [- /+] **ð**/l as in: /ðamjɑ:ʔ/ - / lamjɑ:ʔ /; /jiðbiʔ/-/jilbiʔ/; /xɑ:ð/-/ xɑ:l /.
- d) Delayed release [-/+] **ð**/dʒ as in: /ðan/ - /dʒan/; /ʔiðir/-/ʔidʒir /; /fað/- / fadʒ/.

4.13. The phoneme /s/.

The phonological identity of the phoneme / **s** / is based on the following distinctive oppositions:

4.13.1. Major Class Features.

- a) Consonantal [+ /-] s/w as in: /saʕad/ - / waʕad / ; /ʔisa:ʕid/- / ʔiwa:ʕid /; / bas/-/ baw /.
- b) Sonorant [-/+] s/m as in: / sanɑ:r / - / manɑ:r / ; /ʔasi:r/- /ʔami:r /; / nɑ:s/-/ nɑ:m /.

4.13.2. Laryngeal Features.

- a) Voice [-/+] s/m (see the same examples in 4.13.1./b)
- b) CG [-/+] s/ʔ as in: / sarwa / - / ʔarwa / ; /qɑ:sim/-/qɑ:ʔim/; /jɑ:s /-/ jɑ:ʔ /.
- c) SG [-/+] s/h as in: /sanɑ:ʔ/ - / hanɑ:ʔ / ; /rasam /- /raaham/; / naffas/-/ naffah /.

4.13.3. Place Features.

- a) Labial [- /+] s/m (see the same examples in 4.13.1./b)
- b) Round [-/+] s/w (see the same examples in 4.13.1./a)
- c) Coronal [+/-] s/m (see the same examples in 4.13.1./b)
- d) Anterior [+/-] s/w (see the same examples in 4.13.1./a)
- e) Strident [+/-] s/w (see the same examples in 4.13.1./a)

4.13.4. Dorsal.

- a) High [- /+] s/w (see the same examples in 4.13.1./a)
- b) Low [- /+] s/ʔ (see the same examples in 4.13.2./b)
- c) Back [- /+] s/w (see the same examples in 4.13.1./a)

4.13.5. Manner.

- a) Nasal [- /+] s/m (see the same examples in 4.13.1./b)
- b) Continuant [+/-] s/m (see the same examples in 4.13.1./b)
- c) Lateral [- /+] s/l as in: /sana / - / lana /; /masa/-/ mala /; /ħabis/-/ ħabil /.
- d) Delayed release [-/+] s/dʒ as in: / sana / - / dʒana /; /jitsɑ:hal/-/ jitdʒɑ:hal /; /bɑ:s/-/ bɑ:dʒ/.

4.14. The phoneme /ʕ/.

The phonological identity of the phoneme / ʕ / is based on the following distinctive oppositions:

4.14.1. Major Class Features.

- a) Consonantal [+ /-] ʕ/w as in: /ʕadda/ - / wadda / ; /ʔiʕalli/- / ʔiwalli /; / dʒaʕ/-/ dʒaw /.
- b) Sonorant [-/+] ʕ/n (see the same examples in 4.14.1./a)

4.14.2. Laryngeal Features.

- a) Voice [-/+] ʕ/w (see the same examples in 4.14.1./a)
- b) CG[- /+] ʕ/ʔ as in: /ʕadda/ - /ʔadda / ; /rɑ:ʕid/- / rɑ:ʔid /; /ħɑ:ʕ /-/ ħɑ:ʔ /.
- c) SG[- /+] ʕ/h : /ʕɑ:la/ - / hɑ:la / ; /tʂu:n/- / thu:n /.

4.14.3. Place Features.

- a) Labial [- /+] ʕ/w (see the same examples in 4.14.1./a)
- b) Round [-/+] ʕ/w (see the same examples in 4.14.1./a)
- c) Coronal [+/-] ʕ/w (see the same examples in 4.14.1./a)

- d) Anterior [+/-] **ʃ/w** (see the same examples in 4.14.1./a)
- e) Strident [+/-] **ʃ/w** (see the same examples in 4.14.1./a)

4.14.4. Dorsal.

- a) High [- /+] **ʃ/w** (see the same examples in 4.14.1./a)
- b) Low [+/-] **ʃ/w** (see the same examples in 4.14.1./a)
- c) Back [+/-] **ʃ/h** (see the same examples in 4.14.2./a)

4.14.5. Manner.

- a) Nasal [- /+] **ʃ/n** as in: /**ʃawm/** - /**nawm** /; /**ʃaʃi:da/-/ʃani:da/**; /**faʃ/-/fan/**.
- b) Continuant [+/-] **ʃ/n** (see the same examples in 4.14.5./a)
- c) Lateral [- /+] **ʃ/l** as in: /**ʃɑ:m/** - /**lɑ:m** /; /**ʔiʃu:m/-/ʔilu:m** /; /**ħɑ:ʃ/-/ħɑ:l/**.
- d) Delayed release [-/+] **ʃ/dʒ** as in: /**ʃɑ:m/** - /**dʒɑ:m** /; /**ʔiʃin/-/ʔidʒin** /; /**faʃ/-/fadʒ/**.

4.15. The phoneme /z/.

The phonological identity of the phoneme / **s** / is based on the following distinctive oppositions:

4.15.1. Major Class Features.

- a) Consonantal [+ /-] **z/j** as in: /**zamɑ:n/** - /**jamɑ:n** / ; /**mazɑ:r/-/majɑ:r** /; /**faz/-/faj** /.
- b) Sonorant [-/+] **z/j** m (see the same examples in 4.15.1./a)

4.15.2. Laryngeal Features.

- a) Voice [+/-] **z/k** (see the same examples in 4.6.1./a)
- b) CG [-/+] **z/ʔ** as in: / **zan** / - / **ʔan** / ; /**ʔizin/-/ʔiʔin** /; / **fɑ:z/-/fɑ:ʔ** /.
- c) SG [-/+] **z/h** as in: /**zam**/ - / **ham** / ; /**rizam** /- / **riham** /;

4.15.3. Place Features.

- a) Labial [- /+] **z/m** as in: / **zi:na** / - / **mi:na** / ; /**ʔizin/-/ʔimin**/; / **ʔixiz/-/ʔixim** /.
- b) Round [-/+] **z/w** as in: / **zalzal** /- / **walwal** / ; / **fɑ:z** /- / **fɑ:w** /.
- c) Coronal [+/-] **z/w** (see the same examples in 4.15.3./b)
- d) Anterior [+/-] **z/w** (see the same examples in 4.15.3./b)
- e) Strident [+/-] **z/w** (see the same examples in 4.15.3./b)

4.15.4. Dorsal.

- a) High [- /+] **z/w** (see the same examples in 4.15.3./b)
- b) Low [- /+] **z/h** (see the same examples in 4.15.2./c)
- c) Back [- /+] **z/w** (see the same examples in 4.15.3./b)

4.15.5. Manner.

- a) Nasal [- /+] **z/m** (see the same examples in 4.15.3./a)
- b) Continuant [+/-] **z/m** (see the same examples in 4.15.3./a)
- c) Lateral [- /+] **z/l** as in: /**zi:na** / - / **li:na** /; /**jizwi/-/jilwi** /; /**fɑ:z/-/fɑ:l** /.

- d) Delayed release [-/+] z/dʒ as in: / zi:na / - / dʒi:na / ; /ʔizin/-/ ʔidʒin / ; /ʔiwazwiz/-/ ʔiwadʒwidʒ /.

4.16. The phoneme /f/.

The phonological identity of the phoneme / f / is based on the following distinctive oppositions:

4.16.1. Major Class Features.

- a) Consonantal [+ /-] f/w as in: /fahim/ - / wahim / ; /ʔifakil/- / ʔiwakil / ; / namaʃ/-/ namaw / .
b) Sonorant [-/+] f/w (see the same examples in 4.16.1./a)

4.16.2. Laryngeal Features.

- a) Voice [-/+] f/w (see the same examples in 4.16.1./a)
b) CG[- /+] f/? as in: /ʃɑ:b/ - / ʔɑ:b / ; /rɑ:ʃid/- / rɑ:ʔid / ; /ħɑ:ʃ/-/ ħɑ:ʔ / .
c) SG[- /+] f/h : /fawa/ - / hawa / ; /jiʃwi/- / jihwi / ; /ʃɑ:ʃ/- / ʃɑ:h /.

4.16.3. Place Features.

- a) Labial [- /+] f/m as in: /fahar/ - / mahar / ; /ʔiʃin/- /ʔimin/; /ʔaʃ/- / ʔam / .
b) Round [-/+] f/w (see the same examples in 4.16.1./a)
c) Coronal [+/-] f /m (see the same examples in 4.16.3./a)
d) Anterior [-/+] f /m (see the same examples in 4.16.3./a)
e) Strident [+/-] f /w (see the same examples in 4.16.3./a)

4.16.4. Dorsal.

- a) High [+/-] f /m (see the same examples in 4.16.3./a)

- b) Low [-/+] f /ʔ (see the same examples in 4.16.2./b)

- c) Back [-/+] f /w (see the same examples in 4.16.1./a)

4.16.5. Manner.

- a) Nasal [-/+] f/m (see the same examples in 4.16.1./a)
b) Continuant [+/-] f /m (see the same examples in 4.16.1./a)
c) Lateral [- /+] f /l as in: /fawa/ - / lawa / ; /jiʃwi/-/ jilwi / ; /ʃɑ:ʃ/-/ ʃɑ:l / .
d) Delayed release [-/+] f /dʒ as in: / famal/ - /dʒamal / ; /ʔiʃin/-/ ʔidʒin / ; /faʃ/-/ fadʒ /.

4.17. The phoneme /x/.

The phonological identity of the phoneme / x / is based on the following distinctive oppositions:

4.17.1. Major Class Features.

- a) Consonantal [+ /-] x/h as in: /xɑ:ʔ/ - / ħɑ:ʔ / ; /taxri:b/- / tahri:b / ; / nafix/-/ nafih / .
b) Sonorant [-/+] x/m as in: /xal / - / mal / ; /ʔixali/- /ʔimali/; / ʔidu:x/-/ ʔidu:m / .

4.17.2. Laryngeal Features.

- a) Voice [-/+] x/m (see the same examples in 4.17.1./b)
b) CG [-/+] x/? as in: /xɑ:n/ - /ʔɑ:n/ ; /jitxammar/-/ jitʔammar / ; / bɑ:x/-/ bɑ:ʔ / .
c) SG [-/+] x/h (see the same examples in 4.17.1./a)

4.17.3. Place Features.

- a) Labial [- /+] **x/m** (see the same examples in 4.17.1./b)
- b) Round [-/+] **x/w** as in: / xal /- / wal / ; / ?ixddix/-/ ?iwddix;/bax/-/baw/.
- c) Coronal [-/+] **x/dʒ** as in: / xɑ:f /- / dʒɑ:f / ; / ?ixafif/-/ ?idʒafif /;/fax/-/ fadʒ/.
- d) Anterior [-/+] **x/m** (see the same examples in 4.17.1./b)
- e) Strident [+/-] **x/m** (see the same examples in 4.17.1./b)

4.17.4. Dorsal.

- a) High [- /+] **x/dʒ** (see the same examples in 4.17.3./c)
- b) Low [- /+] **x/?** (see the same examples in 4.17.2./b)
- c) Back [+/-] **x/m** (see the same examples in 4.17.1./b)

4.17.5. Manner.

- a) Nasal [- /+] **x/m** (see the same examples in 4.17.1./b)
- b) Continuant [+/-] **x/m** (see the same examples in 4.17.1./b)
- c) Lateral [- /+] **x/l** as in: /xam / - / lam /; /jixbiʔ/-/ jilbiʔ /; /dɑ:x/-/ dɑɑ:l /.
- d) Delayed release [-/+] **x/dʒ** (see the same examples in 4.17.3./c).

4.18. The phoneme /ɣ/.

The phonological identity of the phoneme / **ɣ** / is based on the following distinctive oppositions:

4.18.1. Major Class Features.

- a) Consonantal [+ /-] **ɣ/h** as in: /ɣam/ - / ham / ; /?ixanni/- /?ihanni /; / fawwax/-/ fawwah /.

- b) Sonorant [-/+] **ɣ/n** as in: /ɣabi/ - / nabi / ; / ?aɣɑ:ni /- /?anɑ:ni /; / sikax/-/ sikan /.

4.18.2. Laryngeal Features.

- a) Voice [+/-]**ɣ/h** (see the same examples in 4.18.1./a)
- b) CG [-/+] **ɣ/?** as in: / ɣɑ:li/ - / ?ɑ:li / ; /tɣammalit/- / tʔammalit /; / fɑ:ɣ/-/ fɑ:ʔ /.
- c) SG [-/+] **ɣ/h** (see the same examples in 4.18.1./a)

4.18.3. Place Features.

- a) Labial [- /+] **ɣ/w** as in: / ɣɑ:li/ - / wɑ:li / ; /?ixanni/- /?iwanni /; / jiʃtiɣ/-/ jiʃtiw /.
- b) Round [-/+] **ɣ/w** (see the same examples in 4.18.3./a)
- c) Coronal [-/+] **ɣ/n** (see the same examples in 4.18.1./b)
- d) Anterior [-/+] **ɣ/n** (see the same examples in 4.18.1./b)
- e) Strident [+/-] **ɣ/n** (see the same examples in 4.18.1./b)

4.18.4. Dorsal.

- a) High [- /+] **ɣ/w** (see the same examples in 4.18.3./a)
- b) Low [- /+] **ɣ/h** (see the same examples in 4.18.1./a)
- c) Back [+/-] **ɣ/h** (see the same examples in 4.18.1./a)

4.18.5. Manner.

- a) Nasal [- /+] **ɣ/n** (see the same examples in 4.18.1./b)
- b) Continuant [+/-] **ɣ/n** (see the same examples in 4.18.1./b)

- c) Lateral [- /+] ʁ/l as in: /ʁam/ - / lam /; /maʁmu:si/- /malmu:si /; /ħaʁ/-/ ħal /.
- d) Delayed release [-/+] ʁ/dʒ as in: / ʁa:b / - / dʒa:b /; /raʁwa/-/ radʒwa /; / ħaʁ /-/ ħadʒ/.

4.19. The phoneme / ħ /.

The phonological identity of the phoneme / ħ / is based on the following distinctive oppositions:

4.19.1. Major Class Features.

- a) Consonantal [+ /-] ħ/h as in: /ħal/ - / hal /; /titwahħam/- / titwahham /; / ħabah /-/ ħabah/.
- b) Sonorant [-/+] ħ/m as in: / ħal / - / mal /; /nahli:- / namli /; /ʔilih/-/ ʔilim /.

4.19.2. Laryngeal Features.

- a) Voice [-/+] ħ/m (see the same examples in 4.19.1./b)
- b) CG [-/+] ħ/ʔ as in: / ħalaq/ - / ʔalaq /; /jithammal/- /jitʔammal /; / sajjiħ/-/ sajjiʔ /.
- c) SG [-/+] ħ/h (see the same examples in 4.19.1./a)

4.19.3. Place Features.

- a) Labial [- /+] ħ/m (see the same examples in 4.19.1./b)
- b) Round [-/+] ħ/w as in: /ħal/-/wal/; /ʔistaħa/-/ʔistawa/; /fɑ:ħ/-/ fɑ:w /.
- c) Coronal [-/+] ħ/dʒ as in: / ħa:m/-/ dʒa:m /; / ʔihra:m/-/ʔidʒra:m /;/sajjiħ/-/ sajjidʒ /.
- d) Anterior [-/+] ħ/m (see the same examples in 4.19.1./b)

- e) Strident [+/-] ħ/m (see the same examples in 4.19.1./b)

4.19.4. Dorsal.

- a) High [- /+] ħ/dʒ (see the same examples in 4.19.3./c)
- b) Low [+/-] ħ/dʒ (see the same examples in 4.19.3./c)
- c) Back [+/-] ħ/dʒ (see the same examples in 4.19.3./c)

4.19.5. Manner.

- a) Nasal [- /+] ħ/m (see the same examples in 4.19.1./b)
- b) Continuant [+/-] ħ/dʒ (see the same examples in 4.19.3./c)
- c) Lateral [- /+] ħ/l as in: /ħa:m / - / lɑ:m /; /zahzah/-/ zalzal /; /sɑ:ħ/-/ sɑ:l /.
- d) Delayed release [-/+] ħ/dʒ (see the same examples in 4.19.3./c)

4.20. The phoneme /ʕ/.

The phonological identity of the phoneme / ʕ / is based on the following distinctive oppositions:

4.20.1. Major Class Features.

- a) Consonantal [+ /-] ʕ/h as in: /ʕammi/ - / hammi /; /ʔinʕizam /- / ʔinhizam /; / naffaʕ /-/ naffah/.
- b) Sonorant [-/+] ʕ/m as in: /ʕaʕaq/ - /maʕaq/; /ʔaʕɑ:ni:- /ʔamɑ:ni:/; / ʕɑ:riʕ/-/ ʕɑ:rim /.

4.20.2. Laryngeal Features.

- a) Voice [+/-] ʕ/h (see the same examples in 4.20.1./a)

b) CG [-/+] **ʕ**/ʔ as in: / ʕalam/ - / ʕalam / ; /jitʕallam/- / jitʔallam /; / bɑ:ʕ/-/ bɑ:ʔ /.

c) SG [-/+] **ʕ**/h (see the same examples in 4.20.1./a)

4.20.3. Place Features.

a) Labial [- /+] **ʕ**/m (see the same examples in 4.20.1./b)

b) Round [-/+] **ʕ**/w as in: / ʕalam /- / walam / ; / taʕʕab/-/tawwab /;/ʕafaʕ/-/ ʕafaw /.

c) Coronal [-/+] **ʕ**/dʒ as in: / ʕaw/-/ dʒaw/ ; / jiʕabbir/-/ jidʒabbir /;/bɑ:ʕ/-/ bɑ:dʒ/.

d) Anterior [-/+] **ʕ**/m (see the same examples in 4.20.1./b)

e) Strident [+/-] **ʕ**/m (see the same examples in 4.20.1./b)

4.20.4. Dorsal.

a) High [- /+] **ʕ**/dʒ (see the same examples in 4.20.3./c)

b) Low [+/-] **ʕ**/dʒ (see the same examples in 4.20.3./c)

c) Back [+/-] **ʕ**/dʒ (see the same examples in 4.20.3./c)

4.20.5. Manner.

a) Nasal [- /+] **ʕ**/m (see the same examples in 4.20.1./b)

b) Continuant [+/-] **ʕ**/m (see the same examples in 4.20.1./b)

c) Lateral [- /+] **ʕ**/l as in: /ʕɑ:na/ - / lɑ:na /; /baʕi:d/-/ bali:d /; /bɑ:ʕ/-/ bɑ:l /.

d) Delayed release [-/+] **ʕ**/dʒ (see the same examples in 4.20.3./c).

4.21. The phoneme /h/.

The phonological identity of the phoneme / **h** / is based on the following distinctive oppositions:

4.21.1. Major Class Features.

a) Consonantal [-/+] **h**/d (see the same examples in 4.5.1./a)

b) Sonorant [-/+] **h**/n as in: /hɑ:di / - / nɑ:di / ; /jihwi/- / jinwi/; /banɑ:h/-/ banɑ:n /.

4.21.2. Laryngeal Features.

a) Voice [-/+] **h**/z (see the same examples in 4.15.2./c)

b) CG [-/+] **h**/ʔ (see the same examples in 4.8.1./a)

c) SG [+/-] **x**/d (see the same examples in 4.5.1./a)

4.21.3. Place Features.

a) Labial [- /+] **h**/b (see the same examples in 4.2.2./c)

b) Round [-/+] **h**/w as in: / haram /- / waram / ; / tʕahhad/- /tʕawwad /.

c) Coronal [-/+] **h**/ʃ (see the same examples in 4.16.2./c)

d) Anterior [-/+] **h**/s (see the same examples in 4.13.2./c)

e) Strident [-/+] **h**/s (see the same examples in 4.13.2./c)

4.21.4. Dorsal.

a) High [- /+] **h**/ʃ (see the same examples in 4.16.2./c)

b) Low [+/-] **h**/z (see the same examples in 4.15.2./c)

- c) Back [-/+] **h**/x (see the same examples in 4.18.1./a)

4.21.5. Manner.

- a) Nasal [- /+] **h**/n (see the same examples in 4.21.1./b)
 b) Continuant [+/-] **h**/q (see the same examples in 4.7.2./c)
 c) Lateral [- /+] **h**/l as in: /ham / - / lam /; /jihwi/-/ jilwi /; /nabbah /-/ nabbal/.
 d) Delayed release [-/+] **h**/dʒ as in: /hana / - / dʒana /; /riham/-/ ridʒam /; /tɑ:h /-/ tɑ:dʒ/.

4.22. The phoneme /dʒ/.

The phonological identity of the phoneme / **dʒ** / is based on the following distinctive oppositions:

4.22.1. Major Class Features.

- a) Consonantal [+/-] **dʒ**/h (see the same examples in 4.21.5./d)
 b) Sonorant [-/+] **dʒ**/n as in: /dʒɑ:b/ - / nɑ:b / ; /jidʒammil/- /jinammil /; / bɑ:dʒ /-/ bɑ:n/.

4.22.2. Laryngeal Features.

- a) Voice [+/-] **dʒ**/s (see the same examples in 4.13.5./d)
 b) CG [-/+] **dʒ**/ʔ (see the same examples in 4.8.5./d)
 c) SG [-/+] **dʒ**/h (see the same examples in 4.21.5./d)

4.22.3. Place Features.

- a) Labial [- /+] **dʒ**/f (see the same examples in 4.9.5./d)
 b) Round [-/+] **dʒ**/w as in: /dʒan/- /wan/; /ʔidʒin/-/ʔiwin/;

/nasadʒ/-/ nasaw /.

- c) Coronal [+/-] **dʒ**/x (see the same examples in 4.17.3./c)
 d) Anterior [-/+] **dʒ**/z (see the same examples in 4.15.5./d)
 e) Strident [+/-] **dʒ**/θ (see the same examples in 4.10.5./d)

4.22.4. Dorsal.

- a) High [+/-] **dʒ**/θ (see the same examples in 4.10.5./d)
 b) Low [- /+] **dʒ**/ʕ (see the same examples in 4.20.3./c)
 c) Back [-/+] **dʒ**/ʕ (see the same examples in 4.20.3./c)

4.22.5. Manner.

- a) Nasal [- /+] **dʒ**/n (see the same examples in 4.22.1./b)
 b) Continuant [-/+] **dʒ**/ʕ (see the same examples in 4.20.3./c)
 c) Lateral [- /+] **dʒ**/l as in: /dʒɑ:b/ - / lɑ:b /; /sadʒaq/-/ salaq /; /bɑ:dʒ /-/ bɑ:l /.
 d) Delayed release [+/-] **dʒ**/ʃ (see the same examples in 4.16.5./d).

4.23. The phoneme /m/.

The phonological identity of the phoneme / **m** / is based on the following distinctive oppositions:

4.23.1. Major Class Features.

- a) Consonantal [+ /-] **m**/h as in: /hal/ - / mal / ; /ʔashax /- /ʔasmax /; / ʃɑ:h/-/ ʃɑ:m /.
 b) Sonorant [+/-] **m**/k (see the same examples in 4.6.1./b)

4.23.2. Laryngeal Features.

- a) Voice [+/-] **m/k** (see the same examples in 4.6.1./b)
- b) CG [-/+] **m/?** as in: / masi:ra / - / ?asi:ra / ; /?imin/- /?i?in/; / lam/-/ la? /.
- c) SG [-/+] **m/h** (see the same examples in 4.23.1./a)

4.23.3. Place Features.

- a) Labial [+/-] **m/z** (see the same examples in 4.15.3./a)
- b) Round [-/+] **m/w** as in: / mal/-/wal/ ; /?imin/-/?iwin/;/balam/-/ balaw/.
- c) Coronal [-/+] **m/f** (see the same examples in 4.16.3./a)
- d) Anterior [+/-] **m/k** (see the same examples in 4.16.1./b)
- e) Strident [-/+] **m/ʃ** (see the same examples in 4.20.1./b)

4.23.4. Dorsal.

- a) High [- /+] **m/ʃ** (see the same examples in 4.16.3./a)
- b) Low [- /+] **m/ħ** (see the same examples in 4.19.1./b)
- c) Back [-/+] **m/ħ** (see the same examples in 4.19.1./b)

4.23.5. Manner.

- a) Nasal [+/-] **m/s** (see the same examples in 4.13.1./b)
- b) Continuant [-/+] **m/z** (see the same examples in 4.15.3./a)
- c) Lateral [- /+] **m/l** as in: /mahɑ:na / - / lahɑ:na /; /sammu/-/sallu/; /xɑ:m/-/ xɑ:l/.

- d) Delayed release [-/+] **m/dʒ** as in: /man / - /dʒan /; /?imin/-/ʔidʒin/; / ħam/-/ ħadʒ/.

4.24. The phoneme /n/.

The phonological identity of the phoneme / **n** / is based on the following distinctive oppositions:

4.24.1. Major Class Features.

- a) Consonantal [+/-] **n/h** (see the same examples in 4.21.1./b)
- b) Sonorant [-/+] **n/ʃ** (see the same examples in 4.14.5./a)

4.24.2. Laryngeal Features.

- a) Voice [+/-] **n/θ** (see the same examples in 4.10.5./a)
- b) CG [-/+] **n/?** (see the same examples in 4.8.5./a)
- c) SG [-/+] **n/h** (see the same examples in 4.21.1./b)

4.24.3. Place Features.

- a) Labial [- /+] **n/b** (see the same examples in 4.2.1./b)
- b) Round [-/+] **n/w** as in: / naɣam /-/ waɣam / ; / sana /-/sawa/;/dʒan/-/ dʒaw/.
- c) Coronal [+/-] **n/f** (see the same examples in 4.9.5./a)
- d) Anterior [+/-] **n/ɣ** (see the same examples in 4.18.1./b)
- e) Strident [-/+] **n/ð** (see the same examples in 4.12.1./b)

4.24.4. Dorsal.

- a) High [- /+] **n/dʒ** (see the same examples in 4.22.1./b)

- b) Low [- /+] **n/h** (see the same examples in 4.21.1./b)
- c) Back [-/+] **n/q** (see the same examples in 4.7.5./a)

4.24.5. Manner.

- a) Nasal [+/-] **n/t** (see the same examples in 4.4.1./b)
- b) Continuant [-/+] **n/ð** (see the same examples in 4.11.1./b)
- c) Lateral [- /+] **n/l** as in: /nɑ:m / - / lɑ:m / ; /jinwi/-/ jilwi / ; /dʒin/-/ dʒil /.
- d) Delayed release [-/+] **n/dʒ** (see the same examples in 4.22.1./c).

4.25. The phoneme /l/.

The phonological identity of the phoneme / **l** / is based on the following distinctive oppositions:

4.25.1. Major Class Features.

- a) Consonantal [+ /-] **l/h** (see the same examples in 4.21.1./b)
- b) Sonorant [+/-] **l/f** (see the same examples in 4.16.5./c)

4.25.2. Laryngeal Features.

- a) Voice [+/-] **l/s** (see the same examples in 4.13.5./c)
- b) CG [-/+] **l/?** (see the same examples in 4.8.5./c)
- c) SG [-/+] **l/h** (see the same examples in 4.21.1./b)

4.25.3. Place Features.

- a) Labial [- /+] **l/m** (see the same examples in 4.23.5./c)
- b) Round [-/+] **l/w** as in: / ladaɾ /-/ wadaɾ / ; / sala/-/sawa/;/fɑ:l/-/fɑ:w/.

- c) Coronal [+/-] **l/x** (see the same examples in 4.17.5./c)
- d) Anterior [+/-] **l/ɾ** (see the same examples in 4.18.5./c)
- e) Strident [-/+] **l/ʃ** (see the same examples in 4.20.5./c)

4.25.4. Dorsal.

- a) High [- /+] **l/dʒ** (see the same examples in 4.22.5./c)
- b) Low [- /+] **l/h** (see the same examples in 4.19.4./c)
- c) Back [-/+] **l/ʂ** (see the same examples in 4.14.5./c)

4.25.5. Manner.

- a) Nasal [- /+] **l/n** (see the same examples in 4.24.5./c)
- b) Continuant [-/+] **l/z** (see the same examples in 4.15.5./c)
- c) Lateral [+/-] **l/k** (see the same examples in 4.6.4./c)
- d) Delayed release[-/+] **l/dʒ** (see the same examples in 4.22.5./c).

4.26. The phoneme /r/.

The phonological identity of the phoneme / **r** / is based on the following distinctive oppositions:

4.26.1. Major Class Features.

- a) Consonantal [+ /-] **r/h** as in: / rana / - / hana / ; / sura /- /suha / ; / jitnaffar/-/ jitnaffah /.
- b) Sonorant [+/-] **r/h** (see the same examples in 4.26.1./a)

4.26.2. Laryngeal Features.

- a) Voice [+/-] **r/h** (see the same examples in 4.26.1./a)

b) CG [-/+] **r/ʔ** as in: / rana / - / ʔana/
; /titrammal/- /titʔammal /; / bɑ:r/-
bɑ:ʔ /.

c) SG [-/+] **r/h** (see the same
examples in 4.26.1./a)

4.26.3. Place Features.

a) Labial [- /+] **r/b** as in: / rana /-/
bana / ; / jɑ:ra/-/jɑ:ba;/bɑ:r/-/ bɑ:b
/.

b) Round [-/+] **r/w** as in: / raʃa /-/
waʃa / ; / ʔirahhim/-/ʔiwahhim
/;/fɑ:r/-/ fɑ:w /.

c) Coronal [+/-] **r/b** (see the same
examples in 4.26.3./a)

d) Anterior [+/-] **r/h** (see the same
examples in 4.26.1./a)

e) Strident [-/+] **r/dʒ** as in: / rana /-/
dʒana / ; / titrammal/-
/titdʒammal;/bɑ:r/-/ bɑ:dʒ /.

4.26.4. Dorsal.

a) High [- /+] **r/w** (see the same
examples in 4.26.3./ b)

b) Low [- /+] **r/h** (see the same
examples in 4.26.1./a)

c) Back [-/+] **r/w** (see the same
examples in 4.26.3./b)

4.26.5. Manner.

a) Nasal [- /+] **r/m** /ri:m / - / mi:m /;
/dʒarɑ:d/-/ dʒamɑ:d /; /manɑ:r /-/
manɑ:m /.

b) Continuant [+/-] **r/m** (see the same
examples in 4.25.5./a)

c) Lateral [- /+] **r/l** as in: /rana / - / lana
/; /dʒirdi/-/ dʒildi;/ /manɑ:r/-/
manɑ:l/.

d) Delayed release [-/+] **r/dʒ** (see the
same examples in 4.17.26.3./e).

4.27. The phoneme /w/.

The phonological identity of the
phoneme / **w** / is based on the following
distinctive oppositions:

4.27.1. Major Class Features.

a) Consonantal [-/+] **w/r** (see the same
examples in 4.25.3./b)

b) Sonorant [+/-] **w/ʃ** (see the same
examples in 4.20.3./b)

4.27.2. Laryngeal Features.

a) Voice [+/-] **w/ʃ** (see the same
examples in 4.16.3./b)

b) CG [-/+] **w/ʔ** (see the same
examples in 4.8.3./b)

c) SG [-/+] **w/h** (see the same
examples in 4.21.3./b)

4.27.3. Place Features.

a) Labial [+/-] **w/z** (see the same
examples in 4.15.3./b)

b) Round [+/-] **w/ð** (see the same
examples in 4.11.3./b)

c) Coronal [-/+] **w/t** (see the same
examples in 4.4.3./b)

d) Anterior [-/+] **w/f** (see the same
examples in 4.9.3./b)

e) Strident [-/+] **w/x** (see the same
examples in 4.18.3./a)

4.27.4. Dorsal.

a) High [+/-] **w/ʃ** (see the same
examples in 4.16.3./b)

b) Low [- /+] **w/h** (see the same
examples in 4.17.3./a)

- c) Back [+/-] **w/d** (see the same examples in 4.5./b)

4.27.5. Manner.

- a) Nasal [- /+] **w/m** (see the same examples in 4.23.3./b)
 b) Continuant [+/-] **w/q** (see the same examples in 4.7.1./a)
 c) Lateral [- /+] **w/l** (see the same examples in 4.25.3./b)
 d) Delayed release[-/+] **w/dʒ** (see the same examples in 4.22.3./b).

4.28. The phoneme /j/.

The phonological identity of the phoneme / **j** / is based on the following distinctive oppositions:

4.28.1. Major Class Features.

- a) Consonantal [-/+] **j/b** (see the same examples in 4.2.1./a)
 b) Sonorant [+/-] **j/z** (see the same examples in 4.15.1./a)

4.28.2. Laryngeal Features.

- a) Voice [+/-] **j/θ** (see the same examples in 4.10.1./a)
 b) CG [-/+] **j/?** (see the same examples in 4.8.1./b)
 c) SG [-/+] **j/h** as in: / jɑ:ʔ /- / hɑ:ʔ / ; / lajja/- / lahha /; /tɑ:j/- /tɑ:h/.

4.28.3. Place Features.

- a) Labial [- /+] **j/b** (see the same examples in 4.2.1./a)
 b) Round [-/+] **j/w** as in: / jɪɾam /- / wɪɾam / ; / ʔajji/- / ʔawwi/; /baj/- /baw/.
 c) Coronal [+/-] **j/b** (see the same examples in 4.2.1./a)

- d) Anterior [-/+] **j/ð** (see the same examples in 4.11.1./a)

- e) Strident [-/+] **j/z** (see the same examples in 4.15.1./a)

4.28.4. Dorsal.

- a) High [+/-] **j/ɰ** (see the same examples in 4.4.1./a)
 b) Low [- /+] **j/h** (see the same examples in 4.28.2./c)
 c) Back [-/+] **j/ɰ** (see the same examples in 4.4.1./a)

4.28.5. Manner.

- a) Nasal [- /+] **j/n** as in: /jɑ:b / - / nɑ:b /; /majɑ:r /- / manɑ:r/; /bɑ:j/- / bɑ:n /.
 b) Continuant [+/-] **j/t** (see the same examples in 4.3.1./a)
 c) Lateral [- /+] **j/l** as in: /jɑ:b / - / lɑ:b /; /jitxajjal/- / jitxabbal /; /bɑ:j/- / bɑ:l /.
 d) Delayed release [-/+] **j/dʒ** as in: / jɑ:b / - / dʒɑ:b /; /ʔiʃajjib/- / ʔiʃadʒdʒib /; /bɑ:j/- / bɑ:dʒ /.

5. Conclusion

From these distinctive opposition we can conclude the features of MAC as follows:

1- Major Class Features.

- a) [+ consonantal] :/p , b , t , ʈ , d , k , q , ʔ , f , θ , ð , ð , s , ʃ , z , ʒ , x , ɣ , h , dʒ , m , n , l and r/.
 [- consonantal] :/h , w , j/
 b) [+ sonorant] :/ m , n , l , r , w and j/
 [- sonorant] :/p , b , t , ʈ , d , k , q , ʔ , f , θ , ð , ð , s , ʃ ,

z , ʃ , x , ʁ , h̥ , ʕ , h and dʒ /

c) [- syllabic] : all the consonants.

2- Laryngeal Features.

a) [+ Voice] :/b , d , ð , ð̌ , z , x , ʁ , ʕ , dʒ , m , n , l , r , w and j/.

[- Voice] :/ p , t , ť , k , q , ʔ , f , θ , s , ʃ , h̥ and h/.

b) [+ CG] : /ʔ/

[- CG] :/ p , b , t , ť , d , k , q , f , θ , ð , ð̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , dʒ , m , n , l , r , w and j/.

c) [+ SG] : /h/.

[- SG] :/ p , b , t , ť , d , k , q , ʔ , θ , ð , ð̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , dʒ , m , n , l , r , w and j/.

3- Place Features.

a) [+ Labial] :/p , b , f , m and w/.

[-Labial] :/ t , ť , d , k , q , ʔ , θ , ð , ð̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , dʒ , n , l , r and j/.

b) [+ Round] : /w/

[- Round] :/ p , b , t , ť , d , k , q , f , θ , ð , ð̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , dʒ , m , n , l , r , w and j/.

c) [+ Coronal] : /t , ť , d , θ , ð , ð̌ , s , ʃ , z , ʃ , dʒ , n , l , r and j/.

[- Coronal] :/ p , b , k , q , ʔ , f , x , ʁ , h̥ , ʕ , h , m and w/.

d) [+ Anterior] :/ p , b , t , ť , d , f , θ , ð , ð̌ , s , ʃ , z , m , n , l and r /.

[- Anterior] :/ k , q , ʔ , ʃ , x , ʁ , h̥ , ʕ , h , dʒ , w and j /.

e) [+ Strident] :/ f , ð̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ and dʒ/.

[- Strident] :/ p , b , t , ť , d , k , q , θ , ð̌ , h , m , n , l , r , w and j/.

4- Dorsal.

a) [+ High] :/k , ʃ , dʒ , w and j/

[- High] :/ p , b , t , ť , d , q , ʔ , f , θ , ð̌ , ð̌̌ , s , ʃ , z , x , ʁ , h̥ , ʕ , h , m , n , l , and r/.

b) [+ Low] : /ť , ʔ , ð̌̌ , ʃ , h̥ , ʕ and h/

[- Low] :/ p , b , t , d , k , q , f , θ , ð̌̌ , s , z , ʃ , x , ʁ , dʒ , m , n , l , r , w and j/.

c) [+ Back] : / ť , k , q , ð̌̌ , ʃ , x , ʁ , h̥ , ʕ and w/.

[- Back] :/ p , b , d , ʔ , f , θ , ð̌̌̌ , s , z , ʃ , h̥ , dʒ , m , n , l , r and j/.

5- Manner.

a) [+ Nasal] :/m and n/

[- Nasal] :/ p , b , t , ť , d , k , q , ʔ , f , θ , ð̌̌̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , dʒ , l , r , w and j/.

b) [+ Continuant] : /f , θ , ð̌̌̌ , ð̌̌̌̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , r , w and j/

[- Continuant] :/ p , b , t , ť , d , k , q , ʔ , dʒ , m , n and l/.

c) [+ Lateral] : / l/.

[- Lateral] :/ p , b , t , ť , d , k , q , ʔ , f , θ , ð̌̌̌̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , dʒ , m , n , l , r , w and j/.

d) [+ Delayed release] : / dʒ/.

[- Delayed release] :/ p , b , t , ť , d , k , q , ʔ , f , θ , ð̌̌̌̌ , s , ʃ , z , ʃ , x , ʁ , h̥ , ʕ , h , m , n , l , r , w and j/.

The following table illustrate these features :

		p	b	t	ʈ	d	k	q	ʔ	f	θ	ð	ʅ	s	ʃ	z	ʒ	x	ɣ	h	ʕ
Major class feature	[+ consonantal]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[- consonantal]		✓																		
	[+ sonorant]																				
	[* sonorant]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[- syllabic]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Laryngeal Features	[+ voice]		✓			✓				✓		✓	✓	✓		✓			✓		✓
	[- voice]	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓			
	[+ CG]								✓												
	[- CG]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ SG]																				
Place Features	[- SG]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Labial]	✓	✓							✓											
	[- Labial]			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Round]																				
	[- Round]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Coronal]			✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[-Coronal]	✓	✓				✓		✓	✓								✓			✓
	[+ Anterior]	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓					✓
	[- Anterior]						✓	✓	✓									✓	✓	✓	✓
	[+ strident]									✓				✓		✓	✓	✓	✓	✓	✓
Dorsal	[- strident]	✓	✓	✓	✓	✓	✓	✓	✓		✓										
	[+ High]						✓										✓				
	[- High]	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Low]				✓				✓				✓							✓	✓
	[- Low]	✓	✓	✓		✓				✓	✓	✓				✓		✓			
Manner	[+ Back]				✓		✓					✓						✓			✓
	[- Back]	✓	✓	✓		✓		✓	✓	✓	✓			✓		✓					
	[+ Nasal]																				
	[- Nasal]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Continuent]									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[- Continuent]	✓	✓	✓	✓	✓	✓	✓	✓												
	[+ Lateral]								✓												
	[- Lateral]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	[+ Delayed Release]																				
	[- Delayed Release]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Appendix

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
1	/parda/	curtain	19	/ja:ʔ/	the name of the sound 'j'
2	/warda /	a female name	20	/txabbal/,/jitxabbal/ /ʔidʒin/	driven made(to masc.sing)
3	/tappi/	ball	21	/txajjal/	imagined (to,masic. sing)
4	/tawwi /	fold (to fem. sing. imp.)	22	/ba:b/	door
5	/pi:m/	torch	23	/ba:j/,/baj/	good bye
6	/ri:m/	a female name	24	/na:b/	feng
7	/dʒi:m/	the name of the sound/dʒ/	25	/hibbi/	love (to fem.sing/imp.)
8	/piskit/	biscuit	26	/hinni/	you should have an intimacy with someone (to fem.sing/imp.)
9	/ʔiskit/	shut up (to mase.sing. imp.)	27	/ba:n/	a female name
10	/pam/	pump	28	/ta:b/	healed ((to masc. sing)
11	/ham/	care	29	/ʔibi:ʕ/	sells (to masc.)

12	/pu:t/	boot	30	/ʔiʔi:ʕ/./jiʔi:ʕ /	a beys(to masc.)
13	/ħu:t/	whale	31	/ħab/	seeds
14	/ʕam/	deep sorrow	32	/ħaʔ/	put(to musc. sing. past)
15	/mi:m/	the name of the lette 'm'r	33	/ʔa:b/	August
16	/pɑ:ʕ/	bus	34	/kabis/	do a process of fermentation for some kinds of vegetables.
17	/lɑ:ʕ/	disturbed things(to mase. sing.)	35	/kaʔis/	trophy
18	/bɑ:ʔ/	the name of the lette 'b'	36	/ sabab /	reason

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
37	/ sabaʔ /	a female name	56	/tɑ:ɾ/	flew (to masc. sing.)
38	/ hɑ:ʔ /	the name of the sound/h/	57	/fɑ:ʔ/	the name of the latter 'f'
39	/qabiɾ/	grave	58	/tabal/	marble
40	/ qahiɾ /	getting angry and sad	59	/tafal/	spat (to masc. sing.)
41	/wɑ:ɖʒib /	homework	60	/tɑ:f/	floated (to masc. sing.)
42	/ wɑ:ɖʒih /	face (to masc. sing. imp.)	61	/hɑ:ʔ/	the name of the sound /h/
43	/ðɑ:b /	dissolved	62	/ʔiʃrab/	drink (to masc. sing. imp.)
44	/ʔiði:ʃ/	announces (to masc.)	63	/ʔiʃraħ/	explain (to masc. sing. imp.)
45	/ʃab/	jumped against(to mase. Sing.)	64	/lɑ:b/	suffered from pain (to masc. sing.)
46	/ ʃað/	deviated (to masc. sing.)	65	/ħabi:b/	lover
47	/waxid/	flowers	66	/ħali:b/	milk
48	/barid/	cold	67	/tɑ:l/	became tall (to masc. sing.)
49	/qibi/	dome	68	/ɖʒɑ:b/	brought (to masc. sing.)

50	/qiwi/	strength	69	/sabaq/	preceded (to masc. sing.)
51	/ðab/	rebuked (to masc. sing.))	70	/sadʒaq/	kind of sweet
52	/ ðaw /	light	71	/dʒe:b/	pocket
53	/ɣa:b/	didn't come (to masc.)	72	/dʒe:dʒ/	chickens
54	/jibli: /	accuses (to masc.)	73	/tɑ:ʔ/	the name of latter 't'
55	/jixli: /	boils	74	/jitxattal/	try to hide himself

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
75	/ba:t/	spend his night (slept)	94	/dʒat/	came (to fem. sing.)
76	/tɑ:b/	repented (to masc. sing.)	95	/dʒaw/	weather
77	/ʔaʃitxi:d/	what do you want ? (to masc. sing.)	96	/taham/	accused (to masc. sing.)
78	/ʔaʃinxi:d/	what do you want ?	97	/faham/	understood(to masc. sing.)
79	/jitli/	fills a container especially by water (to masc. sing.)	98	/zattu:nu/	threw something (pl.)
80	/jibli/	puts someone in problem (to macs.)	99	/zaffu:nu/	celebrated his marriage (pl.)
81	/tibin/	smashed hay	100	/zat/- /sattu/	threw something (to masc. sing.)

82	/ʔibin/	son	101	/zaf/	got married (to masc. sing.)
83	/ʔaʃtɑ:kil/	what do you want to eat? (to masc. sing.)	102	/kal/	be tired (to masc. sing.)
84	/ʔaʃʔɑ:kil/	what should I eat?	103	/sikiʁ/	got drunk (to masc. sing.)
85	/tal/	hill	104	/ʔitʃajjit/	behaves suddenly (to masc.)
86	/hal/	has just arrived (to masc.)	105	/ʔitʃajjik/- /ʔixim/	checks (to masc.)
87	/sitiʁ/	the act of being away from problems	106	/ti:n/	fig
88	/sihiʁ/	stays up (to masc.)	107	/li:n/	a female name
89	/banɑ:t/	girls	108	/sallu/	tormented him psychologically (to masc. sing.)
90	/banɑ:h/	built it (to masc. sing.)	109	/bɑ:l/	peed (to masc. sing.)
91	/wal/	an impolite call for someone (to masc. sing.)	110	/jidʒli/	to clean some metals (to masc. sing.)
92	/ʔistɑ:ʁa/	hanging	111	/bɑ:ɖʒ/	badge
93	/ʔiswɑ:ʁa/	her brace let	112	/jɑ:b/- /jɑ:ba/	Dad

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
113	/maʔɑ:r/	airport	135	/ʔidʒi:b/	brings (to masc.)
114	/majɑ:er/	a female name	136	/ħadʒ/	pilgrimage
115	/ħaj/	alive	137	/ʔi:n/	mud
116	/nɑ:x/	fire	138	/ħaʔab/	firewood
117	/jiʔwi/	folds (to masc.)	139	/ħalab/	Aleppo
118	/jinwi/	intends (to masc.)	140	/ħal/	solved (to masc. sing.)
119	/ħan/	longed for (to masc. sing.)	141	/dawa/	medicine
120	/ʔinsaʔal/	felt confused (to masc. sing.)	142	/jidwi/	takes a lot about unimportant matters (to masc.)
121	/ʔinsaʔal/	he was asked	143	/jihwi/	fulls down especially from a high place (to masc.)
122	/laʔ/	hit (to masc. sing.)	144	/di:n/	religion
123	/laʔ/	no	145	/saddu:nu/	they closed it (pl.)
124	/ʔawa/	folded (to masc. sing.)	146	/sallu:nu/	disturbed (pl.)
125	/hawa/	air	147	/xad/	cheek
126	/ʃɑ:ʔ/	burned	148	/xal/	vinegar

127	/ʃɑ:h/	ʃhah	149	/si:n/	the same of latter 's'
128	/ʔaɾaf/	fat	150	/ʔaddam/	the blood
129	/waɾaf/	foam	151	/ʔassam/	the poison
130	/jiʃti/	gives (to masc.)	152	/xas/	lettuce
131	/jiʃwi/	cries (to masc.)	153	/dabki/	I 'm going to weep
132	/baɖ/	ducks	154	/ʔabki/	I 'm weeping
133	/baw/	a skin of heifer full of smashed hay	155	/ħɑ:d/	acute
134	/ʔiti:b/	heals (to masc.)	156	/xaf/	lost its weight (for things)

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
157	/jidlaʃ/	makes someone naughty (to masc.)	173	/ɾaʃ/	unable to breathe (to masc. sing.)
158	/jiɫaʃ/	wounded someone 's head (to masc.)	174	/nawa/	intended (to masc. sing.)
159	/ɾad/	replied (to masc. sing.)	175	/dʒiddi/	my grandfather
160	/ɾaf/	shelf	176	/dʒinni/	jinnee
161	/dallu/	showed him the way (to masc. sing.)	177	/dʒid/	grandfather

162	/wallu/	an impolite call especially to children	178	/dʒin/	jinn
163	/jihdi/	converts (to masc.)	179	/daʁʁab/	sent something (to masc. sing.)
164	/dʒad/	grandfather	180	/dʒaʁʁab/	practiced someone (to masc. sing.)
165	/ʃawa/	roasted (to masc. sing.)	181	/tidmaʔ/	drops tears
166	/ʔidil/	refers to something (to masc.)	182	/tidʒmaʔ/	gathers (to fem.)
167	/ʔiʃil/	paralyses (to masc. sing.)	183	/baʃad/	again
168	/ʃi:d/	Ieed (a religious celebration)	184	/baʃadʒ/	stabbed (to masc. sing.)
169	/ʃi:f/	live (to masc. sing. imp.)	185	/ʔikaddiʁ/	makes dirty (to masc.)
170	/ʃi:n/	china	186	/ʔiwaddiʁ/	spends foolishly (to masc.)
171	/jiddbiʁ/	tans (to masc.)	187	/malak/	angel
172	/jiʃbiʁ/	paints (to masc.)	188	/malaw/	full to the brim (pl.)

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
189	/mal/	bored (to masc. sing.)	208	/ʔiʃawwik/	becomes thorny
190	/nakkas/	lowered (to masc. sing.)	209	/ʔiʃawwih/	deformed

					(to masc. sing.)
191	/nammas/	became very dirty (to masc. sing.)	210	/kir/	a little donkey
192	/lɑ:k/	chewed (to masc. sing.)	211	/ʃir/	insist (to masc. sing. imp)
193	/lɑ:m/	blamed (to masc. sing.)	212	/ʔaʃi:d/	hunt (to masc. sing.)
194	/kaf/	/palm/	213	/faʃ/	stone or segment
195	/ʔaki:d/	certain	214	/laf/	rolled (to masc. sing.)
196	/ʔazi:d/	increase	215	/fakka/	opened (to masc. sing.)
197	/fak/	jaw	216	/falla/	very beautiful
198	/faz/	woke up suddenly (to masc. sing.)	217	/dak/	pressed it by his hunds (to masc. sing.)
199	/kab/	split (to masc. sing.)	218	/dal/	showed the way (to masc. sing.)
200	/ʔab/	father	219	/fadʒ/	laid carpet (to masc. sing.)
201	/rɑ:kid/	stagnant	220	/ʔikammil/	completes (to masc.)
202	/rɑ:ʔid/	a male name	221	/ʔidʒammil/ /jidʒammil /	beautifies (to masc. sing.)
203	/sabak/	casted	222	/lɑ:k/	chewed (to masc. sing.)

204	/karam/	a female name	223	/lɑ:ɖʒ/	become very bored (to masc. sing.)
205	/haram/	pyramid	224	/qalam/	pencil
206	/mukmil/	failed in two or less lessons (to masc. sing.)	225	/walam/	pus
207	/muhmil/	careless (to masc. sing.)	226	/saqa/	watered (to masc. sing.)

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
227	/sawa/	together	247	/baqa/	stayed (to masc. sing.)
228	/baq/	bug	248	/bana/	built (to masc. sing.)
229	/ʔalam/	pain	249	/nu:q/	she camel (pl.)
230	/masqu:l/	a process of modification	250	/nu:n/	the name of the latter 'n'
231	/masʔu:l/	responsible	251	/qa:m/	stood up (to masc. sing.)
232	/sabaq/	proceeded (to masc. sing.)	252	/zaqzaq/	sqweezed (to masc. sing.)
233	/qɑ:la/	said (to masc. sing.)	253	/zalzal/	quaked (to masc. sing.)

234	/hɑ:la/	a female name	254	/qirdi/	my monkey
235	/saha/	forgot (to masc. sing.)	255	/dʒirdi/	rat
236	/fawwaq/	made someone long to something(to masc. sing.)	256	/wadʒaʃ/	sickness
237	/fawwah/	deformed (to masc. sing.)	257	/ʔiwaqwiq/	cries especially for newly born babied (to masc. sing.)
238	/salam/	got rid	258	/ʔiwadʒwidʒ/	brightness (to masc. sing.)
239	/waqaʃ/	fell down (to masc. sing.)	259	/ʔadab/	literature
240	/wasaʃ/	contained	260	/hadab/	eyelash
241	/bas/	enough	261	/ʔasʔal/	I ask
242	/halam/	Dreamed (to masc. sing.)	262	/ʔashal/	easier
243	/zaqzaq/	squeezed (to masc. sing.)	263	/tɑ:h/	lost his way
244	/zaḥzaḥ/	moved something (to masc. sing.)	264	/fɑ:ʔiz/	winner (to masc. sing.)
245	/qajjim/	precious	265	/fɑ:jiz/	a male name
246	/najjim/	a sleep (to masc. sing.)	266	/tɑ:j/	detergent

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
267	/sɑ:ʔa/	became worse (to masc. sing.)	285	/ʃafqa/	hat
268	/sɑ:wa/	equalized (to masc. sing.)	286	/ʃahqa/	short breath
269	/ʔu:ti/	iron	287	/ʃɑ:f/	saw (to masc. sing.)
270	/fu:ti/	come in (to fem. sing. imp.)	288	/laham/	ate greedily (to masc. sing.)
271	/ʔasfal/	down	289	/ʃaffu/	got a cold (to masc. sing.)
272	/zɑ:ʔ/	the name of the sound /x/	290	/ʃallu/	parlayed him (to masc. sing.)
273	/zɑ:f/	afraid (to masc. sing.)	291	/ʃɑ:l/	carried something (to masc. sing.)
274	/ʔamli/	full something	292	/faz/	woke up suddenly (to masc. sing.)
275	/namli/	ant	293	/waz/	geese
276	/tʔammal/	meditated (to masc. sing.)	294	/ʔaffi/	switch off (to fem. sing. imp.)
277	/tnammal/	numb	295	/ʔawwi/	fold (to fem. sing. imp.)
278	/maslu:l/	very thin	297	/malaf/	file
279	/ħɑ:ʔ/	the name of sound /ħ/	298	/kalla/	hit something or someone with his(her) head
280	/ħɑ:l/	post a year over	299	/ʔafi:d/	benefitted

		something			
281	/ʔana/	I	300	/jitlaʃ/	goes out (to masc.)
282	/dʒana/	a female name	301	/ʁat/	sleep or disappeared (to masc. sing.)
283	/ʔiʔammil/	give a hope (to masc.)	302	/fɑ:ʁ/	mice
284	/ladʒ/	nag (to masc. sing.)	303	/ʃafaq/	a female name

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
304	/ʃanaq/	hanged (to masc. sing.)	324	/hɑ:ʔ/	the name of the letter 'h'
305	/xɑ:n/	khan	325	/laθθitu/	his a alveolar
306	/fan/	art	326	/lahhitu/	makes his late
307	/dʒan/	driven mad	327	/jitʃabbaθ/	tries to find a solution for a dilemma
308	/rafaʃ/	lifted (to masc. sing.)	328	/jitʃabbah/	tries to be like someone else
309	/radʒaʃ/	came back (to masc. sing.)	329	/habbu/	they loved him
310	/θɑ:ʔ/	the name of the sound /θ/	330	/θaxam/	chopped (to masc. sing.)
311	/jitxaθθax/	pasteurizes	331	/waxam/	swelling

312	/jitxajjaɾ/	chooses (to masc. sing.)	332	/ʔixaθθir/	pasteurizes
313	/ħaθ/	urged (to masc. sing.)	333	/ʔixawwir/	roams (to masc. sing.)
314	/θim/	mouth	334	/baθ/	propagation
315	/lim/	gather (to masc. Sing. imp.)	335	/fɑ:ʔ/	the name of the latter 'f'
316	/ħaθθu/	urged him	336	/laffitu/	his sandwich
317	/hallu/	undid something	337	/xaθ/	bored (to masc. sing.)
318	/θimu/	his mouth	338	/θɑ:r/	revenge
319	/ʔimu/	his mother	339	/kɑ:r/	job
320	/jitʔallam/	suffer much (to masc.)	340	/jinθir/	spreads (to masc.)
321	/jitθallam/	becomes less sharp	341	/jinkir/	denies (to masc.)
322	/mxabbaʔ/	hidden	342	/ħak/	rubbed (to masc. sing.)
323	/mxabbaθ/	become sick out of sudden fear	343	/naɾam/	a female name

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
344	/ħannu/	they longed for	366	/ħawwar/	changed (to masc. sing.)
345	/ħan/	longed for (to masc.	367	/jiɾwi/	tempts (to masc.

		sing.)			sing.)
346	/θi:rɑ:n/	oxen	368	/fɑx/	evil
347	/dʒi:rɑ:n/	neighbours	369	/ðal/	humiliates
348	/ħadʒdʒu/	did pilgrimage (pl.)	370	/jinðibiħ/	is slain
349	/ʕaððab/	touched (to masc. sing.)	371	/jinkibiħ/	falls on his face
350	/ʕajjab/	fault (to masc. sing.)	372	/fak/	suspected
351	/fað/	matchless	373	/ʔiðu:b/	solver
352	/faj/	shadow	374	/ʔilu:b/	suffers from pain (to masc.)
353	/jiðbaħ/	slays (to masc.)	375	/tʕaððab/	was tortured (to masc.)
354	/jinbaħ/	barks	376	/tʕadʒdʒab/	wounded (to masc. sing.)
355	/ʃan/-/ʔiʃinl/	started an attack (to masc. sing.)	377	/ðawwa/	lightened
356	/jiði:ʕ/	announces (to masc.)	378	/hawwa/	cooled
357	/ʃɑ:ð/	exceptional	379	/naðar/	sight
358	/jitðammar/	complains (to masc. sing.)	380	/nahar/	river
359	/jitʔammar/	used to give order	381	/ʔaxu:ð/	wages
360	/ʃɑ:ʔ/	wanted (to masc. sing.)	382	/ʔaxu:h/	his brother
361	/ðam/	satirized	383	/ðabi/	deer
362	jiðwi	fades	384	/nabi/	prophet
363	/ðahab/	gold	385	/ʔiðawwi/	lightens
364	/wahab/	a female name	386	/ʔinawwi/	miaowing
365	/ħaððar/	warned (to masc. sing.)	387	/rikað/	ran (to masc. sing.)

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
388	/rikan/	parkod (to masc. sing.)	412	/saʕad/	a male name
389	/ðan/	gussed (to masc. sing.)	413	/waʕad/	a male name
390	/ʔan/	moaned (to masc. sing.)	414	/ʔisa:ʕid/	helps (to masc. sing.)
391	/jitðallam/	complaining (to masc. sing.)	415	/ʔiwa:ʕid/	assign an appointment
392	/xɑ:ð/	waged (to masc. sing.)	416	/sanɑ:r/	a female name
393	/ʕaði:d/	a male name	417	/mana:r/	a female name
394	/ʕabi:d/	slaves	418	/ʔasi:r/	prisoner
395	/ba:ð/	laid an egg	419	/ʔami:r/	prince
396	/ðalam/	oppressed (to masc. sing.)	420	/nɑ:s/	people
397	/ħaðar/	urban	421	/nɑ:m/	slept (to masc. sing.)
398	/ħawar/	black eyed	422	/sarwa/	a female name
399	/ʕað/	bit	423	/ʔarwa/	a female name
400	/ʕaw/	a special name for a dog in language of children	424	/qɑ:sim/	a male name
401	/ðal/	stayed (to masc. sing.)	425	/qɑ:ʔim/	polepilla
402	/nakar/	denied (to masc. sing.)	426	/jɑ:s/	a male name
403	/ʔaxu:k/	your brother	427	/sanɑ:ʔ/	a female name
404	/ðamjɑ:ʔ/	a female name	428	/hanɑ:ʔ/	a female name

405	/lamjɑ:ʔ/	a female name	429	/rasam/	drew (to masc. sing.)
406	/jiðbit/	makes something perfect	430	/raham/	suited
407	/jilbit/	moves	431	/naffas/	got air out of something
408	/xɑ:l/	uncle	432	/naffah/	made someone happy
409	/ʔiðir/	hurts	433	/sana/	a female name
410	/ʔidʒir/	draws (to masc.)	434	/lana/	a female name
411	/fað/	solved (to masc. sing.)	435	/masa/	evening

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
436	/mala/	fulled	460	/dʒɑ:m/	screen
437	/ħabis/	jail	461	/ʔiʃin/	has a hateful smell
438	/ħabil/	rope	462	/zamɑ:n/	time
439	/jitsɑ:hal/	proves facilities (to masc.)	463	/jamɑ:n/	a male name
440	/jitdʒɑ:hal/	ignores (to masc.)	464	/mazɑ:r/	shrine
441	/bɑ:s/	kissed	465	/majɑ:r/	a female name
442	/ʃadda/	tuned it back (to masc. sing.)	466	/zan/	urged (to masc. sing.)
443	/wadda/	sent (to masc. sing.)	467	/ʔizin/	urges (to masc.)
444	/ʔiʃalli/	says his prayer (to masc.)	468	/ʔiʃin/	groans (to masc.)
445	/ʔiwalli/	goes away (to masc.)	469	/fɑ:z/	won (to masc.)

					sing.)
446	/dʒaʃ/	gypsum	470	/zam/	showed off(to masc. sing.)
447	/ʔadda/	did a work (to masc. sing.)	471	/rizam/	packed (to masc. sing.)
448	/rɑ:ʃid/	observer	472	/riham/	suited
449	/ħɑ:ʃ/	pressed (to masc. sing.)	473	/zi:na/	a female name
450	/ʃɑ:lla/	chanber	474	/mi:na/	a femal name
451	/tʃu:n/	keeps (to fem.)	475	/ʔimin/	security (to masc. sing.)
452	/thu:n/	take it easy	476	/ʔixiz/	over comes (to masc. sing.)
453	/ʃawn/	fasting	477	/zalzal/	shacked strongly
454	/nawn/	sleep	478	/walwal/	squeal (to masc. sing.)
455	/ʃaʃi:da/	kind of soap	479	/fɑ:w/	name of city in Iraq
456	/ʃani:da/	stubborn	480	/li:na/	a female name
457	/ʃɑ:m/	fasted (to masc. sing.)	481	/jizwi/	isong
458	/ʔiʃu:m/	fastes (to masc.)	482	/fɑ:l/	o men
459	/ʔilu:m/	blames (to masc.)	483	/dʒi:na/	we are coming

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
484	/ʔiwazwiz/	hisses (to masc.)	503	/faʃ/	punctured
485	/ʃahim/	a male name	504	/taxri:b/	destruction

486	/wahim/	illusion	505	/tahri:b/	smuggling
487	/ʔiʃakil/	forms (to masc.)	506	/nafix/	puffing
488	/ʔiwakil/	recommends (to masc.)	507	/nafih/	airy and sunny
489	/namaʃ/	freckle	508	/ʔixali/	leaves something (to masc. sing.)
490	/namaw/	grew up (pl.)	509	/ʔimali/	fulls something (to masc. sing.)
491	/ʃɑ:b/	young man	510	/ʔidu:x/	becomes dizzy (to masc.)
492	/rɑ:ʃid/	a male of name	511	/ʔidu:m/	continues
493	/ħɑ:ʃ/	picked up (to masc. sing.)	512	/ʔɑ:n/	a female name
494	/jiʃwi/	broasts (to masc.)	513	/bɑ:x/	increasing in temperature and humidity
495	/ʃɑ:ʃ/	gauze	514	/jitxammar/	fermented
496	/ʃahir/	month	515	/ʔixaddix/	numbs (to masc. sing.)
497	/mahir/	fee of marriage	516	/bax/	spray (to masc. sing.)
498	/raʃ/	cheated (to masc. sing.)	517	/dʒɑ:f/	spoiled
499	/lawɑ/	twisted (to masc. sing.)	518	/ʔixafif/	lightens (to masc. sing.)
500	/jilwi/	twistes (to masc. sing.)	519	/ʔidʒafif/	dries (to masc. sing.)
501	/ʃamal/	included	520	/fax/	trap
502	/dʒamal/	camel	521	/lam/	gathered (to masc. sing.)

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
522	/jixbiʔ/	moves (to masc.)	541	/jiʃtiw/	robberies (to masc. sing.)
523	/dɑ:x/	felt dizzy (to masc. sing.)	542	/maɣmu:si/	dipped
524	/dɑ:l/	the name of letter 'd'	543	/malmu:si/	tangible
525	/ʔixanni/	sings (to masc. sing.)	544	/ħax/	hot
526	/ʔihanni/	congratulates (to masc. sing.)	545	/raɣwa/	foam
527	/ʃawwaɣ/	affected psychologically (to masc. sing.)	546	/radɟwa/	a female name
528	/ʃawwah/	distorted (to masc. sing.)	547	/titwahħam/	appetites (to fem. sing.)
529	/ɣabi/	stupid	548	/titwahham/	fancies (to fem. sing.)
530	/ʔaɣɑ:ni/	songs	549	/ʃabaħ/	ghost
531	/ʔana:ni/	selfish	551	/ʃabah/	a agreeing with someone or something in harmony
532	/sikax/	drunk	552	/naħli/	bees
533	/sikan/	lived (to masc. sing.)	553	/ʔilih/	insists (to masc. sing.)
534	/ɣɑ:li/	expensive	554	/ʔilim/	gathers (to masc. sing.)

535	/ʔɑ:li/	robot	555	/ħalaq/	shared (to masc. sing.)
536	/tʁammalit/	widowed (to masc. sing.)	556	/ʔalaq/	a female name
537	/tʔammalit/	pondered (to masc. sing.)	557	/jithammal/	bears (to masc. sing.)
538	/wɑ:li/	wali	558	/jitʔammal/	ponders (to masc. sing.)
539	/ʔiwanni/	economizes for difficult circumstance (to masc. sing.)	559	/sajjiħ/	fluids
540	/jiʃtiʁ/	gets (to masc. sing.)	560	/sajjiʔ/	bad

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
561	/ʔistaħa/	blushed (to masc. sing.)	586	/tawwab/	repented (to masc. sing.)
562	/ʔistawa/	ripened	587	/ʁafaʃ/	lifted (to masc. sing.)
563	/fɑ:ħ/	smelt	588	/ʁafaw/	doze off (to pl.)
564	/ħɑ:m/	/swirled/	589	/jiʃabbir/	express (to masc. sing.)
565	/ʔihra:m/	Ihram	590	/jidʒabbir/	to repair fracture of a bone
566	/ʔidʒra:m/	crime	591	/ʃɑ:na/	suffered (to masc. sing.)
567	/sajjidʒ/	enclose (to masc. sing.)	592	/lɑ:na/	a female name

568	/sɑ:h/	fluided	593	/baʕi:d/	far away
569	/sɑ:l/	dripped	594	/bali:d/	stupide
570	/ʕammi/	my uncle	595	/hɑ:di/	a male name
571	/hammi/	my care	596	/nɑ:di/	club
572	/ʔinʕizam/	determined (to masc. sing.)	597	/jinwi/	intended
573	/ʔinhizam/	defeated (to masc. sing.)	598	/banɑ:h/	built it (to masc. sing.)
574	/naffaʕ/	profited (to masc. sing.)	599	/banɑ:n/	a female name
575	/ʕaʔaq/	sweat	600	/waram/	tumor
576	/maʔaq/	broth	601	/tʕahhad/	pledged (to masc. sing.)
578	/ʔaʕɑ:ni/	I am suffering	602	/tʕawwad/	used (to masc. sing.)
579	/ʔamɑ:ni/	wishes	603	/nabbah/	cautioned (to masc. sing.)
580	/ʕɑ:riʕ/	wrestle (to masc. sing.)	604	/nabbal/	sharpened
581	/ʕɑ:rim/	strict	605	/hana/	a female name
582	/ʕalam/	flag	606	/riham/	suited
583	/jitʕallam/	learns (to masc.)	607	/ridʒam/	stoned (to masc. sing.)
584	/bɑ:ʕ/	sold (to masc. sing.)	608	/tɑ:h/	lost his way
585	/taʕʕab/	makes him tired	609	/tɑ:dʒ/	thrown

Seq.	Words in Mosuli Dialect	The meaning	Seq.	Words in Mosuli Dialect	The meaning
610	/jinammil/	be numb	638	/sura/	a female name
611	/wan/	moaned (to masc. sing.)	639	/suha/	a female name
612	/ʔiwin/	moaning (to masc. sing.)	640	/jitnaffar/	feels distaste (to masc. sing.)
613	/nasadʒ/	weaved (to masc. sing.)	641	/jitnaffah/	relaxes (to masc. sing.)
614	/nasaw/	forget (to masc. sing.)	642	/titrammal/	widows (to fem.)
615	/salaq/	boiled (to masc. sing.)	643	/titʔammal/	ponders (to fem.)
616	/ʔashax/	sleep late	644	/bɑ:r/	bar
617	/ʔasmax/	dark	645	/jɑ:ra/	a female name
618	/ʃɑ:m/	Sham	646	/raʃa/	attended to (to masc. sing.)
619	/masi:ra/	demonstration	647	/waʃa/	be aware of himself
620	/ʔasi:ra/	captive (to fem.)	648	/ʔirahhim/	to suit (to masc.)
621	/ʔimin/	bestow (to masc. sing.)	649	/ʔiwahhim/	illudes (to masc. sing.)
622	/balam/	boat	650	/titdʒammal/	beautifies herself
632	/balaw/	afflicted (to masc. pl.)	651	/dʒarɑ:d/	locusts
624	/mahɑ:na/	indignity	652	/dʒamɑ:d/	inanimate
625	/lahɑ:na/	cabbage	653	/manɑ:r/	a female name
626	/sammu/	poinsoned (to masc. sing.)	654	/manɑ:m/	bed
627	/sallu/	tormented him psychologically (to masc. sing.)	655	/dʒildi/	my skin
628	/xɑ:m/	raw - ١٥١٣	656	manɑ:l	a female name
629	/xɑ:l/	uncle	657	/lajja/	a female name
630	/man/	bestow (to masc. sing.)	658	/lahha/	took someone far

					from his intrests
631	/ħam/	his temperature is high	659	/tɑ:h/	lost his way (to masc. sing.)
632	/dʒil/	gel	660	/jɪɾam/	become swollen
633	/ladax/	bite	661	/wɪɾam/	became swollen
634	/wadax/	waste (n.)	662	/təjji/	fold
635	/sala/	dissolved grease (to masc. sing.)	663	/ʔiʕajjib/	makes fun off
636	/rana/	a female name	664	/ʔiʕadʒdʒib/	wonder
637	/hana/	a female name			