Shilha, which is spoken in southwest Morocco, is one of the most widely distributed of the Berber languages. The dialect described in the work is found in the area extending from Agadir to Ifni and as far east as Taroudant. This study provides a general description of the structure of the language by examining the phonology, morphology, major form classes, syntax, and relative distribution of the form classes. Sample texts and a vocabulary are included. (RL)
AN OUTLINE OF
THE STRUCTURE OF SHILḤA

by
Joseph R. Applegate

Spoken Language Services, Inc.

American Council of Learned Societies
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Shilha, which is spoken in southwest Morocco, is one of the most widely distributed of the Berber languages. The dialect described in this work is found in the area extending from Agadir to Ifni and as far east as Taroudant. Shilha is still the predominant language in rural areas, though Arabic has replaced it in the towns. The presence of Arabic has influenced the dialect, as can be seen from the large number of Arabic loan-words, and also from the fact that there are two methods of counting, one using native Shilha words and the other using Arabic words. The Shilha numerals are used generally by women and occasionally by men in the rural areas, while Arabic numerals are used almost exclusively by men in business transactions. Traces of Spanish and French influence can also be found; the names of the months, for example, are obviously borrowed from Spanish.

The purpose of this work is to provide a general description of the structure of the language by examining the phonology, i.e., the sound-types and their relative distribution; the morphology, i.e., the major form-classes; and the syntax, i.e., the relative distribution of the form-classes. The description is intended to serve as a general outline of the structure rather than as a minutely detailed grammar. Sample texts and a vocabulary are included. Recordings of the texts are permanently deposited with the Linguistics Department of the University of Pennsylvania.

The author's principal informant was Mr. Madani ben Embarek, a native of Ifni, and the analysis presented herein is based chiefly on his speech. Additional material was furnished by Mr. Embarek's brother, Mr. Houssein ben Embarek al Bouchenne. Supplementary evidence to support some of the conclusions reached in the analysis was found in conversations with Mr. Embarek and his brother, as well as with certain of their friends. The author gratefully acknowledges his indebtedness to these gentlemen, without whose cooperation the study would have been impossible.

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J. R. A.

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CHAPTER I
PHONOLOGY

1.0 Introduction

The phonemes to be discussed in this section are: /t k b d g f s z h m n l r i u + - 1/. In addition to these phonemes, the element # (see 1.6) is included in this section because of its influence on certain phonological processes.

1.1 Consonants

1.11 /t/ includes the following sound types:

[tʰ] released and slightly aspirated occurs in the environments /t+V/, /t-V/, and /t/. An example of this is found in the word [tʰibærntʰ] 'garden'.

[t], released but unaspirated, occurs in /VtV/, /CtV/, /tC/, /VtC/, and /CtC/, e.g., [ætbr] 'pigeon', [æturdin] 'back', [its] 'sleep'. It should be noted that the consonant in the last three environments may not be a nasal.

[t], unreleased, occurs before nasals: e.g., [nt³nti] 'they'. This allophone may also occur as an alternant of [t] before other consonants in long sequences of rapid speech.

[ti], domal or emphatic, occurs with /+/. When it occurs before /+/, it is unreleased. In other environments, however, it is released. This is the only allophone of /t/ that may occur in the environments /t+/ or /tC+/.

[tʰ], a fortis allophone, occurs with /t/ in /t/ C:, /tC:/, or /CV/.

When the sequence is /V~Ct:+/, the aspiration is increased.

1.12 /k/ includes the following sound types:

[kʰ], released and slightly aspirated, occurs initially before /a/ and before /+, e.g., [kʰæmunt] 'fireplace'.

[k], released but unaspirated, occurs in /Vka/.

[kV] is slightly aspirated and palatalized. It occurs before /i/, e.g., [kVimni] 'you'.

1The methods used in phonemic analysis are those described in Z. S. Harris's Methods in Structural Linguistics, pages 25-125. Certain typographical conventions are followed. Phonemes and phonemic transcriptions are placed between diagonal lines /; allophones and phonetic transcriptions are enclosed in square brackets []; the symbol ~ means "or". V = any vowel; C = any consonant. Translations are enclosed in single quotation marks.

2For additional data on consonantal release, see Appendix to Chap. I.

3Additional data is found in section 1.24 and the Appendix to Chap. I.
1.12

[kʰ] differs from the preceding allophones because of the labialized release. It occurs before /u/. It may vary freely, however, with [kʰ] and [k].

[k], emphatic, occurs with *//. When it occurs before /u/, there may be a labialized release.¹

1.13 /b/ has few allophones. In borrowed words it occurs as a substitute for an original [p], e.g., /babor/ from Spanish vapor 'ship'.

[b] voiced, bilabial, released stop occurs before vowels and voiced consonants. Before /+/ it may occur unreleased, e.g., [kodub] 'lies'.

[bv], partially voiceless, occurs before voiceless consonants, e.g., [idubv] 'it melted'. It also occurs in /sbv/.

[k] occurs in the same environments as those given for the other fortis consonants.

1.14 /d/, like /b/, has few allophones.

[d], released, occurs before vowels and voiced consonants. Before /+/ it occurs as a free variant of [dʰ]. It should be noted that it does not occur before nasals.

[dʰ], unreleased, occurs before nasals and before /+/. In the latter position it may vary with [d].

[d], domal, emphatic, occurs with */or in /dV* or /dVC*/.

[g] occurs with /i/ in the same environments as those given for other fortis consonants.

1.15 /g/ does not occur frequently.

[g], released, occurs before vowels, consonants, or /+/.

[ɡʰ] has a slightly labialized release. It occurs before /u/, but it seems to vary freely with [ɡ] in this position.

[ɡ] the occurrence of this allophone is limited by the same conditions as those that limit the occurrence of other fortis consonants.

1.16 /f/. There are few restrictions on the occurrence of this phoneme. It occurs before vowels as well as before voiceless consonants. It does not occur before voiced consonants without the introduction of [θ] (1.72) or /-/ (1.42). In /fV/ or /frV/, it may occur as [fθ], or there may be a transposition of the vowel so that /i-frah/ 'he enjoyed' often occurs as /i-farh/.

¹The description of the vocalic allophones (1.2) makes it possible to simplify the description of consonants with palatalized or labialized release. Because these allophones occur only before /i/ or /u/ respectively, and because /i/ and /u/ are known to consist of two components: vocalic and semi-consonantal, sequences in which the palatalized or labialized release occurs can be treated as sequences of /Ci/ or /Cu/.
1.17 /s/ includes the following sound types;

[A] occurs with /i/ as do the fortis consonants already described.

[B] occurs with /l/ in the environments described for other emphatic consonants.

[C] is heard in environments other than those described above.

It should be noted that when it occurs before a voiced consonant there is usually the introduction of [o] or /-/.

1.18 /z/ seems to occur freely and with few restrictions that can be described here. It should be noted that like /s/ it occurs before voiced consonants with the introduction of [o]. A fortis variant occurs in the environments given for other consonants of this type.

1.19 /z/ occurs freely.

[A] domal, emphatic occurs with /sl/ and in the environments described for the other emphatic consonants.

[B] occurs with /u/.

1.110 /k/. There are few restrictions on the occurrence of this phoneme. A variant, [k], occurs initially and frequently in /nZ+/. When it occurs after /4/, it is preceded by [o].

1.111 /x/, a voiceless, palato-velar spirant, has the following positional variants:

[A] with slightly palatalized release occurs before /i/.

[B] occurs before /u/. The labial release is not so clear as in [kw] or [gw]. Often the release is not detectable, so that this sound appears to vary freely with [x].

[C] occurs before consonants before voiced stops, before vowels, and before /sl/.

[D] occurs with /u/.

1.112 /g/ is a voiced palato-velar spirant.

[A] slightly palatalized, occurs before /i/.

[B] occurs before /u/. As in the case of [xw], the labialized release may be dropped, so that the sound is heard simply as [g].

[C] occurs in all environments except those just described.

1.113 /h/ does not occur frequently. It is sound before vowels.

When it occurs after /sl/, it is preceded by [o].

1.114 /h/, a voiceless palato-velar spirant, occurs with few restrictions. When it occurs before consonants, there is a vocalic release similar to [o] but differing slightly because it is whispered.

1.115 /l/, a voiced pharyngeal spirant, apparently occurs only when preceded or followed by a vowel, i.e., in /lV/, /V'l/, /CV/, /VC'l/, and /V'+/.
1.116 /m/ includes the following sound types:

- [m] as a bilabial nasal occurs before vowels or before /t/ after a vowel or in /VmC/ (provided the consonant that follows is not a stop).
- [m\textsuperscript{\textcircled{\textdegree}}], syllabic, occurs in /+mC/ or /Cm+/. [m\textsuperscript{\textcircled{\textdegree}}], unreleased occurs before stops.
- [m\textsuperscript{\textcircled{\textast}}} occurs as a variant of [m] in /+mC/ or as a variant of /m/.

1.117 /n/ as a dental nasal occurs in /+nV/, /VnV/, /VnC/ (except where C = /k/ or /g/), /Vnt/ and /rn+/. [n], syllabic, occurs in /+nC/, /Cn+ and /CnC/: e.g., [nta] 'he', [nt\textcircled{\textdegree}ntl] 'they'. [n\textsuperscript{\textcircled{\textdegree}}] with a short vocalic release occurs as a variant of [n] in /+nC/: e.g., [nt\textcircled{\textdegree}ntl] may occur as [n\textcircled{\textdegree}ntl] [ŋ] occurs before /k/ or /g/: e.g., [ŋkf]\textsuperscript{\textcircled{\textdegree}} 'he arose'.

1.118 /l/ occurs when preceded or followed by a vowel. [l\textsuperscript{\textcircled{\textdegree}}] syllabic occurs in /+lC/ or /Cl+/. [l\textsuperscript{\textcircled{\textrightangle}}] with a short vocalic release alternates with [l]. [l\textsuperscript{\textcircled{\textrightangle}}], slightly backed, occurs with /\ast/. If preceded by a consonant, it occurs as [l].

1.119 /r/ includes a variety of trills.

- [rz\textsuperscript{\textcircled{\textrightangle}}] occurs in /+rV/. After /\#/ it is preceded by a short glottal stop.
- [r\textsuperscript{\textcircled{\textrightangle}}] occurs in /VrV/ or /VrC/ (provided the consonant is a stop) and before /\#/ when there is no drop in tone.
- [r\textsuperscript{\textcircled{\textrightangle}}] occurs before fricatives and nasals. It also occurs before /\#/ when there is a drop in tone.
- [r\textsuperscript{\textcircled{\textrightangle}}] syllabic occurs in /+rC/. The syllabic quality of this allophone is due to [\textcircled{\textdegree}] which always occurs with it. This [\textcircled{\textdegree}] sometimes seems to be whispered and may be overshadowed by the trill. [r\textsuperscript{\textcircled{\textrightangle}}] a domal trill occurs with /\ast/.

1.2 Vowels

1.21 /i/ includes a variety of sound types.

- [iy\textsuperscript{\textcircled{\textrightangle}}] occurs in /+iV/ or /+i-V/. It also occurs in /ViV/ or /CiV/.
  In some cases the initial component is shortened, so that it appears to vary freely with [y].
- [i\textsuperscript{\textcircled{\textrightangle}}] occurs in /+iC/, /Ci+/. It should be noted that the following consonant may not be /g/, /x/, or /h/.
- [iy\textsuperscript{\textcircled{\textrightangle}}] occurs as a variant of [i] in /+i-C/.
- [i\textsuperscript{\textcircled{\textrightangle}}] occurs in /CiC/ unless the second consonant is /g/, /x/ or /h/, or is followed by /\ast/. It also occurs before two consonants.
- [a\textsuperscript{\textcircled{\textrightangle}}] occurs with /g/, /x/ or /h/, and in /iC\ast/. It should be noted that [a\textsuperscript{\textcircled{\textrightangle}}] and [a\textsuperscript{\textcircled{\textrightangle}}} may be lowered slightly so that they approach the upper mid vowels.
1.31 /a/

[a] occurs before /+/. After /+/ it varies freely with [æ] before consonants.

[æ] occurs in /CaC/ (but not /CaC* or /CaC+/). It also occurs in /aC/ as a true variant of [a].

[ə] approaches [a] and occurs before /i/ and /u/.

[e] occurs in /aC+/ or /aCC/.

[a] occurs with /+/.

1.23 /u/

[uw] occurs in /+uV/ or /+u+V/. It also occurs in /VuV/ or /CuV/.

The initial component is shortened, so that this sound often occurs as [w].

[uw] differs from the preceding allophone in that the initial component is not shortened, while the final component is, so that the sound may be heard as [u] in rapid speech. In slow speech, however, this is not the case, and the two components may be heard. Further evidence for the presence of [w] is given by the fact that the addition of an affix beginning with a vowel results in a lengthening of the [w]; e.g., [mitru], [mitruwaet].

[u] occurs in /+uC/ and /uC1/. It also occurs in /Cu/ or /uC+/.

[v] occurs in /CuC/ but not in /CuC*.

[u]' differs from the preceding sound in that it is slightly lower and approaches [o]. It occurs with /+/.

1.3 Suprasegmental Components

1.31 /+/. This phoneme indicates a back position for certain consonants and all vowels (except [ə]). It differs from the phonemes described above in that its domain extends over the entire syllable in which it occurs. In the phonemes previously described, the selection of allophones is determined by the phonemes immediately before or after. When /+/ occurs, however, not only the preceding consonant, but also the vowel and the consonant before that vowel, if any, are affected; e.g., [adad] 'finger'. In this word, both [d]'s are domal, and the vowel between them is a back vowel. Because this is the general structure of sequences containing an emphatic consonant, it may be said that there is an element which extends over the three phonemes in such manner that the point of articulation is further back. The domain of the phoneme /+/ may then be described more exactly as /CVC*+, and the example just given can be written /adad*/. It should be noted that not all consonants have special allophones occurring with this phoneme. Those that do are /t d k s z r l/. It should also be noted that in many cases /+/ may be dropped, so that many words have two forms; e.g., /gidad ~ gidad*/.

1[ə] is, of course, non-phonemic. See Appendix to Chapter I, p.9.
1.32 /i/. This element indicates increased tension. It is like the preceding phoneme in that its domain is /CVC:/ The consonants in this sequence are characterized by lengthening of the period between closure and release, increased aspiration and a fortis quality. The vowels, on the other hand, are shortened. In the case of [iə] and [uʰ], the final component is dropped.¹

1.4 Junctures

1.41 /+. This phoneme differs from those already described in that it is not heard as a distinct sound but rather as an interruption in the sequence of sounds. Because it determines the selection of the allophones of the phonemes around it, however, it must be considered phonemic. It is, perhaps, the most easily recognized juncture, for it occurs between words.

In the description of the sound types included in /i/ it was stated that before vowels the form [iə] was used. The utterance [tyæsiaksæri] ‘he brought the bowl’ would seem to contradict this statement. Although [iə] would satisfy the requirements for inclusion in /i/, [i] occurring before [ə] would not. A further examination of the utterance, however, discloses that it may be divided into two parts, each of which satisfies the definition of the term “word”. An additional element may then be included in the utterance indicating that each part is a word. This element is /+. The utterance is then: [tyæsi+oksæri]. The environments of [iə] and [i] are no longer the same. Because there is no contrast, both may be included in /i/.

1.42 /-. Like /+, this is not heard as a separate sound. It is not so easily recognized, because it may not be heard as an interruption in the flow of speech. It must be considered phonemic, however, because of its influence on the selection of allophones around it. It occurs between stems and affixes.

In the utterance /ifralg/ ‘he enjoyed’, the initial sound [i] seems to contradict the conditions for inclusion in /i/. (Since it is before two consonants, it should occur as [r].) When the utterance is examined further, however, it becomes apparent that there is an additional element between /i/ and /fr/. This element is the phoneme /-.

1.5 Contours

1.51 /|/ is a contour phoneme extending over the utterance in which it occurs. The chief characteristic is a drop in tone for the last vowel of the utterance before /|/.

1.52 /]/ is also a contour phoneme. It differs from /|/ in that there is a high tone on the two vowels just before it.

¹For a discussion of spectrographic data on this phoneme, see the Appendix to Chapter I.
1.6 The element /#/ 

/#/ marks the end of phrases. It is included here because of its importance in describing certain morphophonemic changes which depend upon its presence or absence in certain utterances.¹

1.7 Distribution of phonemes

The phonemes described above may be classified briefly as consonants, vowels, suprasegmental components, junctures, and suprasegmental contours. In this section the distribution of these phonemes relative to each other will be discussed.

1.7.1 Distribution of vowels

The phonemes /i/, /a/, and /u/ may occur before and after consonants. They also occur before or after /i/ or /a/, but not in the sequence /+V+/, that is, a single vowel may not constitute a word.

Sequences of two different vowels occur frequently. When the first vowel of the sequence is /a/, the phonetic form of the second vowel is determined by the phoneme that follows the sequence. If the following phoneme is a non-syllabic consonant, the two vowels are heard as a diphthong: e.g., /auil/ ‘hare’, /aidi/ ‘dog’. If the phoneme that follows is a vowel, the sound before it is consonantal while the first vowel of the sequence is vocalic; e.g., /aiur/ [əiyur] ‘moon’. It is clear that in /aVV/ there is a syllabic division after /a/ so that the central vowel is divided between the two syllables. The same is true when the third phoneme of the sequence is a syllabic consonant.

When the first vowel of the sequence is /i/ or /u/, the pattern is different. In these cases, it is the initial vowel that loses its vocalic quality (or has the vocalic component shortened) and is heard as a glide ([y] or [w]): e.g., /ian/ [ya:n] ‘one’; /agiu/ [agiyu:] ‘donkey’; /alu/ [awalu] ‘nothing’; /l-suzusa/ [lsuwasa] ‘it is cool’.

Clusters consisting of two of the same vowels (/ii/, /uu/) do not often occur, but a few examples can be found: /iθ/ [iyθ] ‘yes’; /uuri/ [uwuri] ‘return’. Apparently the sequence /aa/ does not occur.

It can be stated, then, that vowels occur in /+V-/, /-V+, /+VC/, /+VV/, /CVG/, /CVV/, /VGC/, /VVV/, /CV+, /VV+. The only exception is /a/, which may occur in any of the environments listed above except before another /a/.

1.7.2 Distribution of consonants

Consonants may occur after or before /i/, but not in /+C+/, i.e., a single consonant may not constitute a word. They may also occur freely before and after vowels, so that sequences such as /+CV/, /VCV/, /VCCV/, /+C-V/, and /V-C+ are possible. The chief question to be considered in this section is that of consonantal clusters. Consonants

¹For a detailed description of this element, see Chapter II, 2.5.
occurring next to each other may be considered a cluster if they are
not separated by /e/ or /i/. A test of whether two consonants in the
sequence form a cluster is the range of /i/. If the sequence is a
cluster, both consonants show increased tension when /i/ occurs after
the sequence. If the sequence is not a cluster, only the second conso-
nant shows increased tension when /i/ occurs. It can be stated at the
outset that there are no clusters involving the repetition of one pho-
neme; i.e., sequences such as /tt/, /nn/, etc., do not occur.

The first group of consonants, /t k b d g/, may be classified as
stops. Consonants of this group do not form clusters with other
members of the same group. When the stops occur initially before
phonemes of the second group, /t s z k/, the distribution is com-
plementary if the stops are divided into two classes: voiced and
voiceless. The voiceless stops may form clusters with /t s z/ but
not with /z k/. The opposite is true for voiced stops: e.g., /tfa:/
‘apples’; /tza:/ ‘laugh’; /taz/ ‘island’; /tzn/ ‘garden’. The same
is true when /k t b d/ occur initially before /h h h/. /g/ does not occur
with any of this group of phonemes. With /x/ the distribution is again
complementary; the voiceless stops do not form clusters with this
phoneme, while the voiced stops do. All stops occur initially with
/m n 1/ as clusters but not with /x g/. These stops occur as the initial
members of final clusters, i.e., in /CC+, only with members of the
second group of consonants. Here again the distribution is comple-
mentary. The voiceless stops form clusters only with /t s z/ while
the voiced consonants form clusters only with /z k/.

The preceding statements together with the charts that follow, make
it possible to predict the occurrence of [e] in a sequence. In a sequence
of two consonants, if the phonemes do not form a cluster, [e] occurs
between them. In a sequence of three consonants, [e] will occur between
any two members of the sequence which do not form a cluster; e.g.,
/lfur+ ‘breakfast’. In this word, /l/ and /f/, since they occur initially,
may not form a cluster, and so the first phoneme occurs with [e] and
is heard as [l]. /f/ and /d/ may not form a cluster, so that [e] occurs
between them. The sequence phonetically would then be [eFedor].

1The symbol [e] is used in this discussion of the distribution of
consonants for the special type of release discussed in the Appendix
to Chapter I.

2The two words just cited give a clear example of the domain of
/i/ and /e/ in consonantal clusters. In the first word both /t/ and /f/
show additional tension. In the second word both /t/ and /s/ occur with
pharyngealization. In the word /tdu/ ‘she went’, only /d/ shows addi-
tional tension, because /t/ does not combine with /d/ to form a cluster.

3With /m n 1/ the [e] may be heard at the end of the consonant
so that this word might also occur as [Fedor].
Stress

Stress in Shilha is a non-phonemic feature. The stress patterns may be summarized briefly by stating that primary or heavy stress occurs on the last vowel of the stem, provided that the word has no affixes after the stem. If there is an affix after the stem, and this affix contains a vowel, there is secondary or medium stress on the last vowel of the stem and also on the vowel of the affix. Affixes occurring before the stem and containing a vowel have medium stress; and the final vowel of the stem has heavy stress. The other vowels of the stem have zero stress.

Appendix to Chapter I

1A.1 Consonantal release

The consonantal release referred to in section 1.1 is an important feature of the phonology of Shilha. Although the perception of the release may be influenced by the environment, there are certain characteristics that are constant for each consonant. These characteristics were made clearer through the analysis of material with a sound spectrograph. The spectrographic data show clearly not only the positions of vowel formants, but also the frequencies at which concentrations of energy occur in consonants.

In the utterance /ibit/ 'he cut it', the concentrations of energy after [t] occur at approximately 1825 cycles and 2875 cycles respectively, and last for approximately 0.2 second. There is also a concentration of energy at approximately 500 cycles which is shorter in duration. The same concentrations of energy are found after [t] in the words /ifat/ 'he gave it' and /bdixt/ 'I started it'.

In the utterance /tagit/ 'hole', the formants of the vowel /a/ appear at 750 cycles and 1500 cycles respectively. These formants do not appear as straight lines, however, as they do for an isolated /a/, but as curves with starting points at approximately 500 cycles and 1800 cycles respectively. These starting points coincide with the frequencies at which concentrations of energy occur after [t] in final position.

It should be noted that the stress patterns referred to here apply only to utterances consisting of a single word. If the utterance contains more than one word, the stress is reduced slightly on all vowels except those in the final word. It can be said, therefore, that primary stress occurs only at the end of an utterance.
### INITIAL CLUSTERS

<table>
<thead>
<tr>
<th>First Consonant</th>
<th>Second Consonant</th>
<th>Consonant</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>f s s z x g h h' m n l r</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>tf ts tš th tm tn tl</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>kz ks kš kh km kn kl</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>dz dž dh dž dm dn dl dr</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>gz gž gm gn gl gr</td>
<td></td>
</tr>
<tr>
<td>s</td>
<td>sf sx šš šh şh šm šn šl šr</td>
<td></td>
</tr>
<tr>
<td>z</td>
<td>šž šd šg žh žš žn žl žr</td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>žž žd žg žž žh žm žn žl žr</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>žž žh žš žž žh žm žn žl žr</td>
<td></td>
</tr>
<tr>
<td>m</td>
<td>žž žh žš žž žh žm žn žl žr</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>žž žh žš žž žh žm žn žl žr</td>
<td></td>
</tr>
<tr>
<td>l</td>
<td>žž žh žš žž žh žm žn žl žr</td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>žž žh žš žž žh žm žn žl žr</td>
<td></td>
</tr>
</tbody>
</table>
### FINAL CLUSTERS

| **Second Consonant** | t | k | b | d | g | f | s | z | ž | Ễ | x | g | h | h' | m | n | l | r |
| t                    |   |   |   |   |   |   | tf | ts | tš |   |   |   |   |   |   |   |   |   |   |
| k                    |   | kt|   |   |   |   | kf | ks | kš |   |   |   |   |   |   |   |   |   |   |
| b                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   | bz | bž |   |   |   |
| d                    |   |   |   |   |   |   |   |   |   |   |   |   |   | dz | dž |   |   |   |   |
| g                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | gz | gž |
| f                    |   |   |   |   |   | ft| fk|   |   |   | fs | fš |   |   |   |   |   |   |   |   |
| s                    |   | st| sk |   |   |   |   |   |   |   |   |   | sf |   |   |   |   |   |   |   |   |
| š                    |   | čt| čk |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| z                    |   |   |   |   |   |   | zt| zd | zg |   |   |   |   |   |   |   |   |   |   |   |   |
| ž                    |   |   |   |   |   |   | žt| žd | žg |   |   |   |   |   |   |   |   |   |   |   |   | žg |
| x                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | xs |
| Ć                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Ćg |
| h                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | hš |
| č                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | čš |
| m                    | m |   | mk | mb | md | mf | ms | mš | mz | mž | mx | mg | mh | mb |   | mš | mž | mx | mg | mh | mb |
| n                    | n |   | nk | nd | ng | nf | ns | nš | nz | nž | nx | ng | nh | nb |   | ns | nz | nž | nx | ng | nh | nb |
| l                    | l |   | lk |   |   |   |   |   |   |   |   |   |   |   |   | lg | lh |   |   |   |   | lm |
| r                    | r |   | rk | rd | rg | rf | rs | rš | rz | rž | rx | rr | rm | rm |   |   |   |   |   |   |   | rl |
In the word /gɪt/ 'you are' the concentrations of energy occur at approximately the same positions for both the initial and the final [t]. There seems to be greater aspiration after the final [t], however, and the duration of the lowest concentration of energy is longer in the initial [t].

The concentrations of energy at 500 cycles and 1825 cycles, if extended, would be heard as a vowel, possibly [e] or [ɛ]. In final position the lower formant is of such short duration that the vocalic quality is lost. The same is true when [t] occurs before a vowel. When [t] occurs before [g], however, the lower formant is longer than in the preceding cases, so that a vowel is heard between the two consonants.

An examination of the spectrograms of the utterances /bɪ/ 'he cut' and /bɪt/ 'he cut it' shows a similar pattern for [b]. The initial [i] has formants at 300 cycles and 2250 cycles respectively, and they appear as relatively straight lines. The second [i], however, has a first formant which appears as a slight curve, beginning at approximately 500 cycles and falling to 300 cycles. The second formant begins at 1600 cycles and rises to 2200 cycles. When [b] occurs before a consonant the concentrations of energy occur at 500 cycles, 1500 cycles, and 2200 cycles. These concentrations of energy seem to coincide with the starting points for the curves which indicate the formants of the vowels in the previous utterances. An example of this fact is found in the words /bi-ba*P/ 'he started' and /bi-bdat*/ 'he started it'. In each of these words the concentrations of energy for [b] occur at approximately 500 cycles, 1500 cycles, and 2200 cycles. In the word /bdig*/ 'I started', the concentrations of energy are found at the same points, but the lowest is longer in duration than in the previous words. In this case, therefore, a vowel resembling [a] is heard between [b] and [d].

Although it has not been possible to obtain spectrograms of all combinations of consonants with vowels and consonants with consonants, enough have been made to support the conclusion that the release of consonants is characterized by concentrations of energy at definite frequency levels. Furthermore, when the consonants occur before other consonants with which they cannot combine to form clusters, the duration of the lowest concentration of energy is lengthened, so that the sequence of two consonants is heard as [CVC]. The vocalic sound varies, depending upon the consonant. After the dental consonants, it seems to occur as [ɪ]; after labials, it occurs as [a]; and after velars as [ʌ].

1See section 1.72.
2This would account for the special series of short and very short vowels recognized by some linguists in Shilha. Cf. Stumme, Handbuch
With the phonemes /m n r/ the vocalic components seem to extend through the entire consonant, so that the consonant may be heard as a syllabic sound when it occurs before another consonant or as a sequence of [VC] or [CV]. The syllabic nature of these consonants has been recognized in other languages. When the facts presented above are considered, however, it is possible to state that in Shilha not only /m n r/ but all consonants in certain environments have syllabic allophones.

1A.2 The influence of /:/

By comparing spectrograms of utterances in which /:/ occurred with those in which it did not occur, it was possible to determine more exactly the influence of this phoneme.

In the word /ibit/ 'he cut him', the period between the closure and release of [t] was approximately 1/2 inch or 0.1 second. The duration of the second [t] was approximately the same. In the word /ibit:/ 'he cut her', the period between the closure and release of the [t] was approximately 15/16 inch or 0.1875 second, while the span of the preceding [l] was approximately 1/4 inch or 0.05 second. The aspiration following [t] was greater in the second word than in the first, while the span of [b], including the release, was slightly longer in the second utterance.

In the word /ibdat/ 'he started him', the duration of [a] was approximately 9/16 inch or 0.1325 second, and the period between the closure and release of [t] was 7/16 inch or 0.0875 second. In /ibdat:/ 'he started her', the span of [a] was reduced to 3/8 inch or 0.075 second, and the period between closure and release of [t] was increased to 13/16 inch or 0.1625 second. The aspiration after [t] was darker and the concentrations of energy were more clearly defined in the second word than in the first. The span between [b] and [d] remained constant, however.

Similar comparisons were made between the words /ifat/ 'he gave him', and /ifat:/ 'he gave her'; /bdixt/ 'I started him' and /bdixt:/ 'I started her'; and /bixt/ 'I cut him' and /bixt:/ 'I cut her'. In each case the results were similar. The consonant occurring before /:/ was lengthened while the vowel was shortened. Moreover, the concentrations of energy in the consonantal release were more clearly defined. In addition, the consonant preceding the vowel was lengthened slightly. In /bixt:/ all three consonants were influenced. In /bdixt:/ only [d x t] were influenced.

These facts would indicate that the influence of /:/ extends over /CVC/, /VC/, /CV/, or /CVCC/ unless there is a syllabic division.

des Shilhschen von Tazerwalt, p. 8, and Destaing, Étude sur la Tachelhit du Sous, pp. vi et seq.
CHAPTER II
MORPHOPHONEMICS

2.0 Introduction

The morphophonemic changes which occur in Shilha may be divided into five classes: assimilation; dissimilation; epenthesis and reduplication; apocopation; and substitution, i.e., replacement of one phoneme by another which may be unrelated to the original. Only those changes which affect a large number of morphemes will be discussed in this section. Cases of unique alterations, such as those which occur in the plural morpheme, will be discussed in the description of these morphemes in the section on morphology (Chapter III).

2.1 Assimilation

Assimilation is the name given to the change of one consonant to another so that it becomes more similar to another consonant in the environment.

2.11 C\textsubscript{vd}C\textsubscript{vl} > C\textsubscript{vl}C\textsubscript{vd}\textsuperscript{1}

This change takes place in a large number of morphemes consisting of a single voiced consonant or a sequence of phonemes ending with a voiced consonant. When these morphemes occur before a voiceless consonant, the voiced consonant is unvoiced: e.g., /trig/ 'I saw' > /zrixt/ 'I saw him'; /iumz/ 'he took' > /iurnst/ 'he took it'.

2.12 C\textsubscript{vd}C\textsubscript{vl} > C\textsubscript{vd}C\textsubscript{vl}

This change occurs in some morphemes consisting of a single voiceless consonant or ending in a voiceless consonant when they occur before a voiced consonant. In this case, the voiceless consonant is voiced: e.g., /is-/ (interrogative particle) > /iz-d1; Is-I (causative) > /z-bid/ 'cause to stand'. It should be noted that this change does not occur with all morphemes. The subject pronominal affixes, for example, do not show this alteration.

2.2 Dissimilation

Dissimilation is the name given to the process in which one consonant is changed so that it becomes less similar to another consonant in the environment. Unlike assimilation, which seems to operate chiefly in the voicing or unvoicing of consonants, dissimilation seems to involve a change from one phonetic type to another, e.g., stop to spirant or fricative.

In the discussion of the distribution of consonants it was stated that

\textsuperscript{1}Symbols: > = "becomes"; vd = "voiced"; vl = "voiceless".
two stops may not occur together.\footnote{Cf. section 1.72.} When \( t \) occurs before a stem beginning with a stop, it is often changed to \( /z/ \) or \( /z/ \); e.g., /t-da*lb/ 'she asked for' > /z-da*lb/. This change is not a regular one; for the dissimilation may alternate freely with the introduction of \( [\theta] \).

2.3 **Epenthesis and Reduplication**

Epenthesis and reduplication are similar processes. The first involves the addition of a phoneme in certain environments, while the second refers to the repetition of a phoneme or sequence of phonemes in a certain environment.

2.31 The morpheme /ra-/ (future) occurring before a verb stem has the form /rad-/. When it occurs before another verbal affix, however, it has the form /ra-/: e.g., /raiaf/ 'he will give', /radafg/ 'I will give'.

2.32 One class of verb affixes, which may be described syntactically as indirect objects, consist of a consonant preceded by \( /a/ \). When these affixes occur after a vowel, \( /i/ \) is prefixed: e.g., /iufalak lktab/ 'he gave you the book', /urakifl lktab/ 'he did not give you the book'.

2.33 Reduplication occurs most frequently in prepositional affixes. It should be noted that this change occurs only when the pronominal affix begins with a vowel or a nasal. When the affix begins with a stop or spirant, the change does not take place. E.g., /di-/ 'with', /didi/ 'with me', /didng/ 'with us', /dik/ 'with you'.

2.4 **Apocopation**

Apocopation describes the loss of a phoneme at the beginning or end of a morpheme. It seems to occur when the same phoneme occurs in two adjoining morphemes.

2.41 VC\(_1\)VC\(_1\) > VC\(_1\) > VC\(_1\)C\(_1\) > VC\(_1\)

This change is found in the verbal affixes /ar-/ (progressive) and /ra-/ (future). When these morphemes occur after /ur-/ (negative) the second consonant is dropped. E.g., /ratfraht/ 'you will enjoy', /uratfraht/ 'you will not enjoy'; /aritfra/ 'he is enjoying', /uraitfra/ 'he is not enjoying'.

This change also occurs when the morpheme /-t-/ occurs with /t-/. Then one of the consonants is lost, so that /arttdu:/ 'she is going' occurs as /artdu:/.

2.5 **Substitution**

In this category are those changes which involve the replacement of one phoneme by another. Changes which involve the change of a
sequence of phonemes to another sequence which may have no similarity to the first are discussed in the description of the individual morphemes.

One change of this type is sufficiently general to be discussed in this section. It is important because it furnishes additional information about phrase boundaries which will be considered in Chapter IV. This change involves the change of /a-/ (nominalizer) to /u-/. A large number of nouns in Shilha are formed by attaching this morpheme to verb stems. When these nouns occur after /i/ or /#/, i.e., at the beginning of a sentence or the beginning of a phrase, there is no change in /a-/. In other positions, however, the /a-/ becomes /u-/, e.g., /airux izri# argaz/ 'the boy saw the man'. The order of words in the utterance may be changed so that it appears as /i-zri ufrux# argaz/. It can be seen that there is some connection between /i-zri/ and /afrux/ because the presence of /i-/ is determined by /afrux/. If /afrux/ were replaced by /tafruxt/ 'girl', the /i-/ would be replaced by /t-/. This does not happen when /argaz/ is replaced by /tafruxt/, however. The two words /afrux/ and /i-zri/ may be said to be members of a phrase. When /afrux/ occurs initially in this phrase, the prefix is unchanged. When it occurs in non-initial position, however, the /a/ becomes /u-/. Another example of the effect of phrase boundaries is found in the utterances: /zrig# agiul/ 'I saw the donkey' and /zrig hu# ugiul/ 'I saw the stable of the donkey'. It should be noted that this change also occurs after /-/: e.g., /ya-ugiul/ 'one donkey'.
CHAPTER III
MORPHOLOGY

3.0 Introduction

Morphemes in Shilha may be divided into three major classes: stems, affixes and particles. This division is determined by their distribution. Stems may occur as free forms or with affixes. In some cases they may constitute a complete utterance; e.g., as commands, as answers to questions or as exclamations. Affixes are bound forms which can never occur independently. In many cases, affixes consist of a single phoneme, and this is one of the facts that serves to distinguish them from stems and particles. Particles, like stems, are forms which may occur independently, but they are distinguished from stems by the fact that they do not occur with the affixes with which stems occur.

In this section, morphemes will be described, and their distribution as well as the morphological processes involved in the formation of words will be discussed. Words in Shilha may be described in terms of their structure. A word may consist of a single morpheme; e.g., particles. In other cases, a word may consist of a stem with one or more affixes. A third class of words is formed by the combination of affixes. Finally, there are compound words which are formed by the combination of two words.1

3.1 Stems

These morphemes may be divided into two classes, nouns and verbs, because of the affixes with which they occur. Within each class a further division is possible, since stems may be described in terms of structure as basic or derived. A basic stem is one which may occur independently or with affixes and which has no apparent connection with other stems in the language. A derived stem may be described as a stem with a formative affix. It should be noted that formative affixes may be added to either basic or derived stems, so that several derived stems may be formed from one basic stem by the addition of formative affixes one after another.

3.11 Noun stems

Nouns are stems which occur only with the affixes in subclasses 1 and 3. There are some which are basic stems, but a large number are derived forms. Many nouns, however, have been borrowed from

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1In this section, isolated morphemes are enclosed in braces { }, and the juncture between prefix and stem or suffix and stem is indicated by the hyphen -. Word boundaries are indicated by a space. The transcription is phonemic.
other languages, chiefly Arabic, and these should be considered basic stems. All stems classified as nouns, whether basic or derived, have as an implicit characteristic, gender. This is shown by the fact that every noun may be replaced by one of two words: /nta/ 'he' or /ntat/ 'she'.

The largest group of derived nouns are those beginning with {a-}. It can be shown that these are forms derived from verb stems. Almost all of these nouns are masculine, and they refer to the performer of an action; e.g., /a-mksa/ 'shepherd' < /mksa/ 'graze'; /a-dal/ 'mantle' < /dl/ 'cover'; /a-bnai/ 'builder, mason' < /bnu/ 'build'; /a-ndaslab/ 'beggar' < /daslb/ 'ask for'.

A second group of derived nouns includes those formed from verb stems by the addition of the morpheme (1-). It should be noted that not all nouns beginning with / are members of this class; for many nouns borrowed from Arabic retain the Arabic article although it loses its syntactic function in Shilha and appears merely as an inseparable part of the noun. It is possible that this fact has influenced the formation of nouns with the morpheme cited above. Nouns beginning with {1-} are usually masculine and refer to a state; e.g., /a-farh/ 'pleasure' < /farh/ 'enjoy'; /a-hma/ 'heat' < /hma/ 'be hot'; /a-hna/ 'peace' < /hnu/ 'rest'.

A third group of nouns is formed by the addition of {bu-} to noun stems, either basic or derived. These nouns are usually masculine and refer to the owner of an object or the possessor of a characteristic; e.g., /bu-lu*tal/ 'owner of a hotel'; /bu-l-hnal/ 'one who is at rest'.

A fourth group of nouns has been formed by the addition of the morpheme (t...t) to noun stems, either basic or derived. Many of the nouns formed in this way are feminine counterparts of nouns beginning with {a-}: e.g., /t-a-mgar-t/ 'woman' < /a-mgar/ 'sheik'; /t-a-xdam-t/ 'cleaning woman' < /a-xdam/ 'worker'. In some cases the nouns formed with the affix (t...t) may be diminutives; e.g., /t-igZdi-t/ 'small log' < /igZdi-azgZdi/ 'tree trunk'.

Another group of derived nouns has been formed by the combination of {bab} 'owner, master' with basic or derived noun stems. These nouns occur as alternants of those formed with {bu-} in many cases; e.g., /bab-l-farh/ 'one who enjoys'; /bab-l-hnal/ 'one who is resting'; /bab-lu*kat/ 'owner of a hotel'. They must be considered compound words, however, for they are formed by the combination of two words rather than a stem and an affix.

The nouns described above may be considered members of one class, for it is possible to substitute /nta/ or /ntat/ for any of them occurring in the sequences /...i-\ or /...t-\ respectively. Another

A more complete discussion of gender will be found in section 4.2.
fact which supports this classification is found in the syntactic analysis, namely that they occur with verbs to which the third person pronominal affixes have been added. In the following portions of the description the symbol Na will be used for this class of nouns.

A second class of nouns includes words which may be described syntactically as pronouns. They are considered members of a subclass of nouns because they occur with the same affixes with which noun stems occur although there are certain syntactic differences which serve to distinguish them from members of the subclass Na. The symbol Nb is used in referring to the members of this particular subclass.

The first group of nouns in this subclass includes the personal pronouns. The members of this group are: /nki/ 'I', /kii/ 'you', /nta/ 'he'. When the plural morpheme {i...n} is added, the following changes occur: /nki/>/nukni/, /kii/>/kuni/, /nta/>/ntni/. All of the forms except /nki/ may occur with the feminine morpheme {t...t}. When the latter morpheme is added, the following changes occur: /kii/>/kimi/, /nta/>/ntat/, /nukni/>/nuktnti/, /kuni/>/kunftnti/, /ntni/>/ntnti/. These words may occur as independent forms in the same environments in which the noun stems of Na occur. The feature that distinguishes them from members of the previous subclass is the change that occurs when any inflectional affix is added. Then the forms occur as suffixes rather than independent words. After the possessive morpheme {n-} the following changes occur: /nki/>/-u/, /kii/>/-k/, /kimi/>/-km/, /nta/>/-ntat/>/-s/, /nukni />/nuktnti/>/-g/, /kuni/>/-un/, /kunftnti/>/-untnti/, /ntnti/>/-sa/, /ntnti/>/-nntnti/. With the exception of the first, /nki/>/-u/, these are the forms that occur with the other inflectional affixes as well as with (n-). After other inflectional affixes, /nki/>/-i/. After (n-), the forms function as possessive pronouns; e.g., /tigmi-nu/ 'my house'. After other affixes, the entire sequence may function as a verb or, in some cases, a noun; e.g., /dar-i lktab/ 'I have a book' (literally, 'to me a book'); /i-da: a-dar-eni/ 'he went to their house'.

The second group of nouns in the subclass Nb includes the demonstrative and relative pronouns. The demonstrative is /gua/. When the feminine morpheme is added, it becomes /xta/. With the addition of the plural morpheme, /gua/>/guli/ and /xta/>/kuti/. These forms occur with the locative affixes to form words that may be substituted for members of the subclass Na: e.g., /gua-d/ 'this one'; /xta-n/ 'that one'. The relative pronoun /li:/ 'who' is included in this subclass, and it is important to note that it may occur with the demonstrative to form a word that functions as an absolute relative: e.g., /gua-li:/ 'the one who'; /xta-li-d/ 'this one who'.

The members of the third subclass of nouns, Nc, are numerals and quantifiers. They may be considered nouns because they occur with the same inflectional affixes with which other noun stems occur. The
reason for assigning them to a special subclass is the fact that they may occur as prefixes. This is especially true of {ian} 'one'; {sin} 'two'; {kulu} 'each, every'. When {ian} occurs as a prefix, it has the form /ia-/ and it may function as an article which is similar to the English article 'the'; e.g., /i-zra* agrul/ 'he saw a donkey' or 'he saw the donkey'; /i-zra* ia-ugil/ 'he saw one donkey' or 'he saw one (definite) donkey'. When {kulu} occurs as a prefix, the final vowel is lost.

The Shilha numerals from 1 to 29 are used in rural areas for counting, especially by women. In cities and towns, the Arabic numerals from 3 to 29 are used by men in business transactions. The numerals from 1 to 10 are basic stems; those from 11 to 29 are compound words formed by adding the numerals from 1 to 9 to {mrau} 'ten' to which the prefix {d-} 'with' has been added; e.g., /ian-d-mrau/ 'eleven'.

{mrau} with the plural morpheme means 'twenty', so that the numbers from 21 to 29 are formed by adding the numerals from 1 to 9 to the form /mrau-in/ with the prefix {d-}; e.g., /sin-d-mrau-in/ 'twenty-two'. After twenty-nine, Arabic numerals are used exclusively.

The ordinal numbers are formed from the cardinal numbers, with the exception of /ian/, by adding the prefix {uis}. With the feminine morpheme, /uis-/>/tis-/.

3.12 Verb stems

Verb stems are those which occur with the affixes in subclasses 2 and 3. Like nouns, they may be divided structurally into two classes: basic stems and derived stems. Although many basic stems have been borrowed from Arabic, they usually conform to the inflectional patterns of native stems. It is important to note that derived verb stems are formed from basic verb stems. There seem to be no verb stems that have been derived from noun stems.1

There are three categories of derived verb stems. The most frequent in occurrence are those formed by the addition of {s-}; e.g., /s-fsi/ 'still, silence' < /fsi/ 'be quiet'. These stems are usually causative in meaning. Another class of derived stems consists of those formed by the addition of {m-}; e.g., /ma-kl*/ 'meet' < /kl*/ 'wait for, see'. In many cases, these stems have a reciprocal or reflexive meaning. The third type of derived stems consists of those verbs formed by the addition of {t-}; e.g., /t-fsr/ 'be spread out' < /fsr/ 'spread'. These verbs are usually passive.

Just as gender is an inherent characteristic of nouns, so tense is an inherent characteristic of verbs. A verb stem occurring without

1A possible exception to this is the verb /sual/ 'speak' which may have been derived from the noun /aual/ 'speech, talk, conversation'. No other cases could be found, however. It is highly probable that the noun itself is a derived stem formed by adding {a-} to a basic stem /ul/ 'noise, sound'.

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affixes, or with the affix {θ...θ}, must be considered a command rather than an infinitive.

3.2 Affixes

Affixes have been defined as morphemes which may not occur independently. They may be classified by the type of stems with which they occur: one class occurs only with nouns, a second class occurs only with verbs, and a third class occurs with both nouns and verbs. Structurally, they are of three types: prefixes, suffixes, and broken morphemes, i.e., prefix and suffix attached to the same stem. Phonologically, they may be distinguished from stems by the fact that many of them consist of a single phoneme. It has been stated above that this is not the case with stems or particles; for a single phoneme may not occur in the environment /+...+/. In terms of function they may be classified as formative or inflectional. The formative affixes are those which may be added to stems to form new stems to which the same inflectional affixes are added that are added to basic stems. Inflectional affixes are those which when added to a stem form a word that cannot be substituted for a basic stem; i.e., an inflectional affix determines the subclass of affixes from which subsequent affixes for the word are chosen. It is necessary, therefore, to consider not only which affixes occur with which stems, but also which affixes occur with each other.

3.21 Noun affixes

{t...t} is a formative affix which may be added to noun stems classified as masculine. It occurs most frequently with stems beginning with /a/ to form a derived stem which is the feminine counterpart of the first: e.g., /a-ṣfar/ 'thief' (m.), /t-a-ṣfar-t/ 'thief' (f.); /aglul/ 'donkey' (m.), /t-aglul-t/ 'donkey' (f.). In some cases the derived stem is a diminutive: e.g., /agziif/ 'palm tree', /t-agziif-t/ 'small palm tree'. With certain nouns which may be described as collective, this morpheme may be used to form a singular: e.g., /liban/ 'banana' (as a type of fruit), /t-liban-t/ 'one banana'; /rial/ 'dollars, currency', /ta-rial-t/ 'one dollar'. It may be used also to form nouns designating a type of work: e.g., /anžar/ 'carpenter', /t-anžar-t/ 'carpentry'.

When this morpheme is added to a stem beginning with a non-syllabic consonant, it usually has the form (ta...t). When the stem to which it is added ends with /d*/, there is usually assimilation so...
that the derived stem ends with /t*/ or /tː/: e.g., /agad/ 'goat' (m.),
/t-aga-t*/ 'goat' (f.); /a-glïd*/ 'king'; /t-a-gli-t/ 'queen'. With {i...n} (plural) this morpheme is usually apocopated so that it has the form /t...Ø/. This does not always happen, and the change usually fails to occur when the derived stem ends with /t*/ or /tː/.

This morpheme also occurs with stems classified as personal pronouns, and the changes occurring have been described above. With other noun stems, it usually has the form /Ø...t/. This is always the case when it occurs with numerals: e.g., /ian/, /ia-t/ 'one'; /sdis/, /sdis-t/ 'six'.

{bu-} is another formative prefix occurring with noun stems, either basic or derived. It is used in forming nouns referring to the owner of an object or the possessor of a quality: e.g., /bu-mhand/ 'owner of stickers, porcupine'. These derived stems are usually masculine. It should be noted that these derived stems alternate freely with the compound words formed by the addition of {bab} to noun stems. With other noun stems, it usually has the form /0...t/. This is always the case when it occurs with numerals: e.g., /ian/, /ia-t/ 'one'; /sdis/, /sdis-t/ 'six'.

(i...n) occurs with noun stems and is used to form the plural. With nouns beginning with /a/, it usually has the form /i...n/ while /a/> Ø: e.g., /argaz/ 'man', /i-rgaz-n/ 'men'; /agad/ 'goat', /i-gad-n/ 'goats'. In some cases, however, the morpheme has the form /i...n/ /V>a/ G/: e.g., /agru/ 'frog', /i-gra/ 'frogs'; /agul/ 'donkey', /i-gial/ 'donkeys'. In these cases, the initial /a/ is also lost. In a few cases, the form becomes /i...an/, but this is found only with stems ending with a consonant. There are also cases in which /i...n/> /Ø...n/: e.g., /a-dag/ 'bush', /a-dag-n/ 'bushes'; /adžar/ 'neighbor', /adžar-n/ 'neighbors'.

When {i...n} occurs with noun stems containing the morpheme (t...t) (feminine), it usually has the form /i...in/. The initial vowel of the stem becomes Ø while /t...t/ becomes /t...Ø/: e.g., /-afulus-t/ 'hen', /-i-fulus-in/ 'hens'; /-amdakul-t/ 'friend', /-i-mdakul-in/ 'friends'; /-a-mgar-t/ 'woman', /-i-mgar-in/ 'women'. Just as in some cases described in the preceding section, the change of the last vowel of the stem to /a/ occurs in nouns formed with {t...t} when {i...n} is added: e.g., /t-a-srgul-t/ 'lids', /t-i-srgul/ 'lids'. In some cases the form is /Ø...in/, and the initial vowel of the stem remains unchanged: e.g., /t-azan-t/ 'little girl', /t-azan-in/ 'little girls'.

Another alternant of this morpheme occurs with certain basic stems of native origin. This alternant is /id/. It is this alternant which occurs with nouns formed by the addition of {bu-} or {bab} to a stem: e.g., /bu-mhand/ 'porcupine', /id-bu-mhand/ 'porcupines'; /bab-l-farī/ 'he who enjoys', /id-bab-l-farī/ 'those who enjoy'; /xali/ 'uncle', /id-xali/ 'uncles'.

1See section 3.11.
2See section 3.11.
With nouns borrowed from languages other than Arabic, the plural morpheme usually has the form /āt/, e.g., /litru/ (Sp. litro) 'liter', /litru-āt/ 'liters'; /simanā/ (Sp. semana) 'week', /siman-āt/ 'weeks'; /lāgār/ (Fr. gare) 'railroad station', /lāgār-āt/ 'stations'. Such nouns are usually of Romance origin. Nouns borrowed from Arabic usually retain the Arabic plural, often an internal phonemic change rather than the addition of a prefix or suffix: e.g., /lktub/ 'book', /lktub-āt/ 'books'; /lābāb/ 'door', /lābībān/ 'doors'.

This morpheme also occurs with pronouns, and the resulting forms have been described above. The symbol A₂ is used for the plural morpheme.

{n-}, the possessive morpheme, occurs with all stems classified as nouns. It must be considered an inflectional morpheme; for it limits the syntactic function of the stem with which it occurs. Before stems beginning with /a/ it usually has the form /u/. If the initial /a/ is the morpheme {a-} which becomes /u/ after /-/, there is assimilation so that only one [u] is heard in rapid speech: e.g., /āgīlī u-urgaz/ → /āgīlī u-rgaz/ 'the man's donkey'. Before nouns containing the plural morpheme when the initial phoneme is /l/, the possessive morpheme has the form /l-/ as an alternant. In rapid speech the two vowels are assimilated so that only one is heard. Before stems beginning with /h/ this morpheme alternates with φ. Both /a-fus n-lbab/ and /a-fus lābab/ 'the handle of the door' occur. After the verb /gā/ 'be', the morpheme has the form /u-/: e.g., /āgīlī u-urgaz-ān/ 'the donkey belongs to that man'. When the first noun is feminine, the form /fī-/ is used: e.g., /fī-āgīlī t-tī a-mgar-t-ān/ 'the donkey belongs to that woman'. The symbol A₃ is used for this morpheme.

The affixes (d-) 'with', (dar-) 'to', (f-) 'for', (g-) 'in', (i-) 'for', (s-) 'to', and (sī-) 'with, by means of' may be described as prepositional affixes. They occur with noun stems either basic or derived. The forms given above are those that occur with all except the personal pronouns. With the personal pronouns, /fī/> /fīl-/ /fī/> /fīl-/ and /l-//> /a-/. Furthermore, when /d-/ or /g-/ occurs with /nklī/ 'I', /nuki/ 'we', /kuni/ 'you' (m. pl.) or /kuninti/ 'you' (f. pl.), there is reduplication: e.g., /gīlgī/ 'in me', /didngī/ 'with us', /diduntī/ 'with you'. The symbol A₄ is used for these affixes.

The remaining prepositional affixes {du-} 'under', {iql-} 'on', {nga-} 'between', {tarf-} 'near', and {ta'amā} 'beside' must be described as members of a special subclass; for they occur only with stems to which {n-} has been added. The symbol used for these prefixes is A₅.

An additional affix {ua-} is included in the group of noun affixes. This prefix serves to indicate the vocative forms and the noun to which it is added may function syntactically as a particle. The alternant /a-/ usually occurs with titles and proper names.

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1See section 3.11.
3.22 Verb affixes

The formative affixes for verbs may occur either with basic stems or with derived stems, i.e., they may occur with each other. A given affix does not occur more than once with the same stem, however.

\{s-\} is added to verb stems to produce a new stem usually causative in meaning; e.g., /ird/ 'be clean', /s-ird/ 'wash'; /km/ 'reach, arrive', /s-km/ 'take to a destination'; /si/ 'melt' (intransitive), /s-si/ 'melt' (transitive). When the morpheme is added to a stem in which /\$/, /\$, or /%/ occurs, there is a morphophonemic change which may be described as reduplication: e.g., /s-k\$im/>/zi-k\$im/ 'take in'; /s-nz/>/z-nz/ 'sell'; /s-zi/>/zi-zi/ 'cure'. When (s) occurs before voiced stops, there is usually assimilation: e.g., /s-bid/>/z-bid/ 'stand'; /s-drus/>/z-drus/ 'reduce'. This change is not a regular one, and the forms /s-/ and /z-/ may alternate with each other.

\{m-\} is also a formative affix, but it occurs less frequently than the preceding one. Usually the derived stems formed with this affix have a reciprocal or reflexive meaning: e.g., /ki\$/ 'see, wait for'; /ma-kl/ 'see each other, meet'. When (m-) occurs before /n/, there is usually assimilation: e.g., /m-nag/>/m-ag/ 'fight with each other'. When (m-) occurs before /C...\$, it becomes /ma-/-.

\{t-\} is also a formative prefix used in producing derived stems. It occurs less frequently than either of the previous affixes. The derived stem formed with this affix is usually passive in meaning: e.g., /bnu/ 'build', /t-bnu/ 'keep building'. In stems containing two consonants /a/ is usually inserted between the consonants: e.g., /sn/ 'know', /nun/ 'always know'. In other cases, when the stem consists of /CVC/, /a/ may be added after the last consonant: /mun/ 'accompany', /muna/ 'always accompany'. In other cases, especially when the stem contains /i/ and more than two consonants, /i/ is added: e.g., /s-ird/ 'wash', /s-si/ 'always wash'. Finally, there are a few verbs in which the morpheme occurs as reduplication, i.e., /CVC/ or /VC/>/CVCVC/: e.g., /sum/ 'sweeten', /sumum/ 'keep sweetening'.

These four morphemes described above are considered members on one subclass, and in the summary of morphological structure the symbol B1 will be used for this subclass.

\{a-\} is another formative prefix which occurs with verb stems, either basic or derived. Derived stems formed with this affix function as nouns syntactically, and, therefore, this affix must be considered a
member of a different subclass. As indicated above, many nouns in Shiltia have been formed from verb stems by the addition of this prefix. After /t/ or /#/ the affix has the form /a-./. After /-/, or when it occurs in non-initial position in a phrase, it becomes /a-./. This change has influenced other nouns beginning with /a/ so that even borrowed nouns, which should be considered basic stems since they have not been formed from other stems in the language, may show this change from /a/ to /u/; e.g., /asnu/ 'donkey', /ia-usnu/ 'one donkey' (Lat. asinus).

\(\{-\}\) is a member of the same subclass to which \(\{a-\}\) belongs, for it is a formative prefix added to verb stems, either basic or derived, to form a stem which functions syntactically as a noun. The use of this affix may be due to Arabic influence. Usually nouns formed with this affix refer to an action, a state, or a condition: e.g., /f-ar\(\)d/ 'pleasure' (/f\(\)r\(\)d/ 'enjoy'); /f-\(\)ma/ 'heat' (/\(\)ma/ 'be hot').

Because these two morphemes are similar in distribution, they may be considered members of the same subclass. The abbreviation B2 will be used for this subclass. The fact that these prefixes when added to a stem form sequences that occur with a subclass of affixes different from that with which the stems occur shows the importance of considering not only the stems to which affixes are attached but also the affixes that may subsequently be attached to the sequence.

The inflectional affixes for verbs may be divided into four subclasses. The first three are temporal, modal, and pronominal. In addition, there is an imperative morpheme which is equivalent in distribution to the sum of the first two of these classes. The symbol B3 is used for temporal affixes; B4 for modal affixes; and B5 for pronominal affixes. The symbol B6 refers to the imperative morpheme.

The temporal affixes may be divided into two subclasses on the basis of structure. The first class consists of those affixes which occur as prefixes. In the second class are the morphemes which involve an internal phonemic change.

\(\{ar-\}\) is attached to verb stems to form a progressive tense: e.g., /ar-fal-g/ 'I am leaving'; /ar-i-t-fra\(\)h/ 'he is enjoying'. It is important to note that this affix occurs only with derived stems formed with the morpheme \(\{t\}\) 'habit\(\)u-1'. The exact tense of the form is determined by the context: e.g., /argaz i-bda* ar-i-t-ni/ 'the man started to talk', /argaz ar-i-t-ni/ 'the man is saying, usually say\(\)s'. When this morpheme occurs after another affix, there is a morphophonemic change so that /ar/>/a/: e.g., /ur-ar-fal-g/>/ur-a-fal-g/ 'I am not leaving'; /is-ar-i-t-fra\(\)h/>/is-a-i-t-fra\(\)h/ 'is he enjoying'.

\(\{ra-\}\) occurs with verb stems to form the future tense. It differs from the preceding affix because it may occur either with basic stems or with derived stems: /ra-i-du/ 'he will go', /ra-i-t-du/ 'he will be going'. When this morpheme occurs immediately before the stem, it
has the form /rad-/; e.g., /rad-aui-g/ 'I will take'. If another affix occurs between {ra} and the stem, the form /ra-/- is used; e.g.,
/ra-k-aui-g s-lu-atal/ 'I will take you to the hotel'. When it occurs after {ur-} 'not', there is assimilation so that /ra-/>/a-/: e.g.,
/ur-ra-i-du/>/ur-a-i-du/: 'he will not go'.

{P} is the symbol used for a third temporal affix which differs structurally from the preceding affixes because it involves internal phonemic changes rather than the addition of a prefix. It is used to indicate a completed action. There are several alternants of this morpheme which will be described below.

With the first class of stems, {P} has the form /∅...∅/, i.e., the stem remains unchanged and the pronominal affixes are added; e.g.,
/bl/ 'cut, cross', /bi- ∅ a-garas s-udar/ 'I crossed the street on foot';
/agug/ 'be far away', /l-agug/ 'he is far away'.

With a second class of stems, this morpheme appears as /a/>/u/. The stems in this class are usually monosyllabic, consisting of /aC/, /aCC/, or /CaC/: e.g., /amz/ 'take', /i-umz/ 'he took'.

With a third class of stems, {P} occurs as /u/>/i/>/a/. The change /u/>/i/ occurs with the morphemes {g} 'I' and {t...t} 'you', while the change /u/>/a/ occurs with the other subjective pronominal affixes; e.g., /du/ 'go'; /di-∅/ 'I went'; /i-da/ 'he went'.

With a fourth class of stems, {P} occurs as /l/>/a/. This is similar to the alternant described above, for the change does not occur with the morphemes {g} or {t...t}: e.g., /ri/ 'want'; /t-ri-t/ 'you wanted';
/ra-n/ 'they wanted'.

The modal affixes include the negative, interrogative, subjunctive, and conditional affixes.

{ur-} 'not' is a negative prefix. It occurs with verb stems and the affixes described above. When it occurs with stem to which {P} has been added, certain changes occur in the stem. In those cases in which {P} = /a/>/u/, the same change is found when {ur-} is added. When {P} = ∅, there is no change in the stem after the addition of {ur-}.

In other cases, however, {ur-} is followed by the change /V>i/: e.g.,
/du/ 'go'; /i-da/ 'he went'; /ur-i-di:/ 'he didn't go'.

{i-s-} is an interrogative prefix which occurs before verbs and any of the affixes described above. It does not occur with any other interrogative affix, however. In addition to being used to form questions, it may also be used to express doubt or astonishment: e.g., /is-t-gl-t a-berani/ 'are you a stranger?'; /ur-t-sin-t is-i-ga *Asa: laid / 'you don’t know (that) today is a holiday'.

Both morphemes {is-} and {ur-} may occur independently. In this way they are different from the other verbal affixes. The independent forms in both cases are formed by the addition of /d/. These forms may be classified as particles: e.g., /urd lktab a-i-ga/ 'it is not a book'; /izd kii a-i-ga-n a-barani/ 'are you a stranger'.

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(ad-) occurs with verbs and the other inflectional affixes to form a subjunctive or infinitive. When it occurs immediately before any of the pronominal affixes, it has the form /a-/: e.g., /rm-ad-kru-rm-
iat-lbit/ 'I want to rent a room'; /1-1a-i-kra-iat-lbit/ 'he wants to rent a room'. When it occurs before the morpheme {ur}, it serves to form a negative command: e.g., /ad-ur-t-du-t/ 'don’t go'.

The morphemes {ig} 'if', {lig} 'when', {ma'ala} 'if', {kudna} 'as soon as', {zu} 'ever', and {sul} 'ever again' may be considered members of this same subclass, for they occur in the same environments. The last of the affixes {sul} occurs only with forms containing {ra} 'future'. All of these affixes occur as prefixes, and although there is a slight pause after them so that in some utterances they seem to be words rather than prefixes, it is clear that they must be classified as prefixes because the objective pronominal affixes precede the stem when these forms occur just as they do when other prefixes such as {ra-} and {ur-} occur: e.g., /1-zra*/ 'he saw', /1-zra-k*/ 'he saw you', /lig-k-i-zra*/ 'when he saw you'.

The pronominal affixes may be divided into three groups on the basis of distribution as well as syntactic function. In the first group, B5a, are the subjective affixes. The second group, B5b, consists of direct object affixes. The third group, B5c, includes the indirect object affixes. The morphemes included in each of the three groups are complementary in distribution to the other members of that group, but they may occur with members of either or both of the other two groups.

The members of the first group are: {-g} 'I', {t...t} 'you', {i-} 'he', {n-} 'we', {t...m} 'you' (m. pl.), {t...mt} 'you' (f. pl.), {-nt} 'they' (m.), {-nt} 'they' (f.). These morphemes are attached to verb stems, either basic or derived, with any of the affixes described above. The position of the affixes is fixed, but the selection of the affix depends upon the other words in the environment (see Syntax). Before voiceless consonants, (g) >bcI.

The affix {i...n} 'the one who' may be considered a special member of this class. It occurs, like the others, with verb stems and its position is fixed so that it always occurs next to the stem. Its distribution is complementary to the other members of the group, for it does not occur with any other member of the subclass. It differs because its selection does not depend on the other members of the phrase. Moreover, its syntactic function is different, for the form produced by the addition of this morpheme seems to be adjectival rather than verbal. It should be noted that {i...n} may occur as /0...n/. The symbol B5ax is used for this morpheme.

The members of the second group, the direct object affixes, are:

{1} 'me', {k} 'you' (m. sg.), {km} 'you' (f. sg.), {t} 'him', {t;} 'her', {ag} 'us', {kun} 'you' (m. pl.), {kunt} 'you' (f. pl.), {tn} 'them' (m.),
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(tnt) ‘them’ (f.). They are complementary in distribution, but their position is not fixed. When they occur with a modal affix or any temporal affix except (P), they are prefixes. In other cases, they are suffixes.

The members of the third group, the indirect object affixes, are: (ii) ‘to me’, (ak) ‘to you’ (m. sg.), (am) ‘to you’ (f. sg.), (as) ‘to him/her’, (ag) ‘to us’, (aun) ‘to you’ (m. pl.), (aunt) ‘to you’ (f. pl.), (asn) ‘to them’ (m.), and (asnt) ‘to them’ (f.). After a vowel, all of these forms have /i/ prefixed. After consonants, they occur as listed above. The position of these affixes is determined by the other morphemes in the word, and in this way they resemble the morphemes of the second group. When they occur with a modal affix or any temporal affix except {P}, they are prefixes. In other cases, they are suffixes.

(C) is the symbol used for the imperative morpheme. There are three alternants of this morpheme: /0...0/, /0...-at/, and /0...-amt/. The first is a singular form, the second is masculine plural, and the third is feminine plural. Each of the plural forms has an alternant, /0...iat/ and /0...iamt/, which occurs after vowels: e.g., /du:/ ‘go’, /du:-iat/ ‘go’ (m. pl.), /du:-iamt/ ‘go’ (f. pl.).

In distribution, this morpheme is equivalent to the sum of B3, B4, and B5a, for it does not occur with any of the members of these subclasses. It may occur with the members of B5b and B5c, however.

3.23 Noun or verb affixes

The third class of affixes includes those morphemes that occur as prefixes or suffixes with either noun stems or verb stems. It is this fact which distinguishes them from other affixes whose occurrence is limited to stems of one class or another.

(d) ‘here, this, now’ and (n) ‘there, that, then’ may be considered locatives. They occur as suffixes with nouns and noun substitutes, and in this position they have the forms /-ad/ and /-an/ respectively: e.g., /tigmi-ad/ ‘this house’; /l-rgaz-n-an/ ‘those men’. When they occur with verbs, they appear as prefixes or suffixes depending upon the other morphemes in the word. With {ra}, (ax), (ad), and (ur) they occur as prefixes. In other words which do not contain these morphemes, they occur as suffixes: e.g., /aui-d/ ‘bring’, /ad-ur-d-aui/ ‘don’t bring’.

{ma-} ‘who, what, anything’ is also a member of this class. When it occurs before nouns, it has the form /man/. Before verbs, the form /ma/ is used: e.g., /man-tifii t-ri-t/ ‘what (kind of) meat do you want’; /ma-t-ri-t/ ‘what do you want’.

The affixes in this class may be found in those words classified as particles. Almost all of the interrogative words contain /ma/ although a more detailed analysis of these words would be necessary to determine the other constituents: e.g., /mani/ ‘where’. The same is true...
with many adverbs. These may contain the morpheme \( \{d\} \) or \( \{n\} \): e.g., /gilad/ 'now', /gilan/ 'then', /gid/ 'here', /gina/ 'there'.

### 3.3 Particles

The morphemes classified as particles occur independently without affixes. It is this fact which serves to distinguish them from stems. Interjections, conjunctions, and certain interrogative words are included in this class. It is possible that some of the adverbs have been formed by the combination of two affixes: e.g., /gid/ 'here' and /gina/ 'there' seem to be the results of adding \( \{g-\} \) 'in' to the morphemes \( \{d\} \) and \( \{n\} \). The word /gasa:/ 'today' may have been formed from \( \{g\} \) 'in', /as:/ 'day' and \( \{d\} \) 'this', for an older form, /gasad:/ literally 'in this day', is sometimes substituted for /gasa:/.

The description of particles depends on their distribution relative to other words; it will therefore be discussed in the section on syntax (Chapter IV).

### 3.4 Equations for the Formation of Words

The distribution of morphemes has been included in the description of the individual morphemes. For purposes of simplification, however, a summary is given below. The equations are not intended to indicate the syntactic function of the words, but merely to indicate the morphemic constituents of the words. The letters indicate the classes of morphemes: \( N = \) noun stem, \( V = \) verb stem, \( A = \) noun affix, \( B = \) verb affix, \( C = \) noun and verb affix. The numerals indicate the subclasses of morphemes, and the subscript indicates the class of word in terms of morphemic components.

- \( Na + A1 = N1 \)
- \( Na \sim N1 + A2 = N2 \)
- \( Na \sim N1 \sim N2 + A3 = N \)
- \( Na \sim N1 \sim N2 + A4 = N4 \)
- \( N3 + A5 = N4 \)
- \( Na + A6 = \text{Particle} \)
- \( Na + C = Na \)
- \( Nb + A2 = N2 \)
- \( Nb + A3 > A = N3 \)
- \( V + B1 = V1 \)
- \( V + B2 = N \)
- \( V \sim V1 + B3 = V2 \)
- \( V2 + B4 = V3 \)
- \( V2 \sim V3 + B5a = V4a \)
- \( V2 \sim V3 + B5ax = V4b \)
- \( V \sim V1 + B6 = V4c \)
- \( V4 + B5b = V5a \)
- \( V4 + B5c = V5b \)

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1See H. Stumme, Handbuch des Schilhischen von Tazerwalt, p. 121.
$Nb + A4 = V_4 \sim N_4$

$Nc + Na = N_1 \sim N_2$

$Nc + Nc_4 = Nc_1$

$V_{5a} + B_{5c} = V_6$

$V_{5b} + B_{5b} = V_6$

$V + C = V$
CHAPTER IV
SYNTAX

4.0 Introduction

In considering the syntax of Shilha it is necessary to examine the words described in the previous section, not as isolated units but in terms of their distribution relative to other words in the language. The basic unit for syntactic analysis, therefore, is the phrase. A phrase may be defined as a sequence of morphemes forming one or more words which have a certain interdependence.

4.1 Noun Phrases

The basic noun phrase consists of a single noun stem. This stem may be a member of any of the three subclasses of nouns. When one of the formative affixes is added to a stem that is a member of the first subclass, the word formed may be considered a derived noun stem, for it may be substituted for a basic stem: e.g., /i-zra* afrux/ 'he saw the boy'; /i-zra* t-afrux-t/ 'he saw the girl'. The syntactic symbol N is used for both basic and derived noun stems.

When a noun stem of the first subclass occurs with the possessive morpheme (n-), a word is formed which may be placed after another noun to construct a sequence which can be substituted for a basic or derived stem: e.g., /agiul i-da: s-suk*/ 'the donkey went to the market'; /agiul u-urgaz i-da: s-suk*/ 'the man's donkey went to the market'. The symbol N is used for this sequence of Na(n-)Na. When the possessive morpheme occurs with a personal pronoun, Nb, the sequence formed occurs as an affix rather than as a separate word. This affix can be substituted for the sequence {n-}Na: e.g., /agiul-n-s i-da: s-suk*/ 'his donkey went to the market'. Because the sequences Na(n)Na and Na(n)Nb are syntactically equivalent, the same symbol N is used for sequences in which either occurs.

When a noun stem of the first subclass occurs with one of the third subclass of noun affixes, a preposition, the resulting sequence may be considered a phrase which may be substituted for a particle but not for a noun stem. This sequence is represented by the symbol N. The sequences N and N may be substituted for the noun stem in these utterances: e.g., /i-aui-d rbi'a i-ugiul/ 'he brought grass for the donkey'; /i-aui-d rbi'a i-ugiul-n-s/ 'he brought grass for his donkey'.

The sequence N may also be formed by combining an affix of the fourth subclass with a noun to which the morpheme {n-} has been added: e.g., /lktab i-la igi-n-tbla/ 'the book is on the table' is syntactically equivalent to /lktab i-la g-tigmi/ 'the book is in the house'.

The personal pronouns may also occur with members of the fourth subclass of noun affixes. The resulting sequence, however, differs
4.1

syntactically from the sequence $N^3$. This fact can be seen immediately in the utterances /is-t-ri-a-di-sn/ 'do you want to (go) with them' and /is-t-ri-t a-t-ia-t/ 'do you want to eat'. The sequence /di-sn/ in the first utterance is replaced by a sequence described structurally as $V_4$. Therefore, the two sequences although structurally different must be syntactically equivalent.

4.2 Verb Phrases

The minimal verb sequence occurring in utterances is $V_4$, i.e., a basic or derived stem with a temporal affix and a subjective pronominal affix, or a basic or derived stem with the imperative morpheme. These forms serve as the nuclei of phrases for which the symbol $V^1$ will be used. The presence of the imperative morpheme influences the distribution of other words in the phrase, however, therefore the symbol $V_{1a}$ will be used for those phrases not containing the imperative, and $V_{1b}$ will be used for those in which the imperative morpheme occurs. Utterances such as /i-zra*/ 'he saw'; /ra-t-du-ti/; /ur-i-gi/ 'he is not' may be considered examples of the first type of phrase ($V_{1a}$). Phrases such as /bi/ 'cut' and /du-lat/ 'go' are examples of the type $V_{1b}$. By adding a member of $B5b$ to the sequence $V^1$, a new word is formed which contains a direct object: e.g., /i-zra*-k*/ 'he saw you'; /bi-t/ 'cut it'. The symbol $V^2$ is used for phrases of this type. If a member of the subclass $B5c$ is added to $V^1$, however, the sequence contains an indirect instead of a direct object. The symbol $V^3$ is used for these phrases. When morphemes from $B5b$ and $B5c$ are added to $V^1$, the sequence formed contains both the direct and indirect object. This type of phrase is represented by the symbol $V^4$. It is possible to describe the syntactic relationships between nouns and verbs in terms of these four types of verb phrases.

The sequence $V_{1a}$ in addition to the morphemic components of the word itself may also contain a noun or noun phrase ($N^1-N^2$): e.g., /i-zra*/ 'he saw'; /argaz i-zra*/ 'the man saw'; /agliul u-urgaz i-zra*/ 'the man's donkey saw'. Such sequences are syntactically equivalent to $V^1$. The order of the words may be changed so that the noun phrase may occur after the verb: e.g., /i-zra* urgaz/. If the noun which serves as the nucleus of the noun phrase contains the feminine morpheme {t...t}, there is a subsequent change in the morpheme chosen from $B5a$: e.g., /t-agliul t t-zra*/ 'the donkey (f.) saw'. It is this fact which makes it possible to divide stems classified as nouns into two classes which are complementary in distribution, one of which occurs only with the morpheme {i-} 'he'. The other occurs only with the morpheme {t-} 'she'. If the noun serving as the nucleus of the noun phrase contains the plural morpheme {i...n}, there is also a change in the pronominal affix chosen for the verb: e.g., /i-rgaz-n zra-n*/ 'the men saw'. It is possible to state, therefore, that the morphemes classified
as nouns contain two constituents which are repeated in the subjective affixes in phrases of this type. The first constituent C, gender, has two classes: C1 masculine and C2 feminine. The first has the form \( \theta \). The second has many alternants of which the most common is the formative affix \( \{t\_t\} \). Almost all nouns with initial /t/ contain the component C2. With all subjective pronounal affixes except \{g\} 'I', \{\_t\} 'you', and \{n-\} 'we', it occurs as an addition of /t/. With \{i-\} 'he' this addition of /t/ is coupled with the subtraction of /i/.

The second constituent Y, number, has two classes. The first Y1 'singular' may be considered \( \theta \). The second Y2 'plural' has many alternants, the most frequent of which is the morpheme \{i...n\} occurring with nouns. With the subjective pronounal affixes, the chief function of Y2 seems to be a change of position of the affix, i.e., suffix to prefix or prefix to suffix, rather than the addition of a given phonemic sequence: e.g., /ur-fi-t/ 'I didn't give'; /ur-n-fi/ 'we didn't give'.

Each phrase of the type \( V_1^a \) must then contain two additional elements C and Y which extend over the noun and the pronounal affix. The utterance /argaz i-zra*/ could then be symbolized structurally as \( C Y_1 (N V_4) \) while the utterance /i-ter-in zra-nt*/ would be written \( C Y_2 (N_1 V_4) \).

In phrases of the type \( V_1^b \), the only noun phrase which may occur without changing the syntactic nature of the sequence is \( N_5 \), i.e., a noun stem with the vocative affix.

Sequences of the type \( V_2 \) occur in simplest form as \( V_2^a \). The phrase, however, may consist of \( V_1 + N_1 - N_2 \); e.g., /i-zra* argaz/ 'he saw the man'; /i-zra* agil u-urgaz/ 'he saw the man's donkey'. Both of these utterances are syntactically equivalent to the utterance /i-zra-\( \_t^* \)/ 'he saw him'. It is possible to change the order of the words so that the noun phrase may occur before the verb. In this case, the verb must have the form \( V_2^a \), and the gender and number of the noun which serves as direct object are repeated in the objective affix: e.g., /a-garas i-bi-t/ 'he crossed the street'; /\( \_t^* \) udi-t i-bi-t/ 'he cut the butter'. When the verb contains any affix except \{P\} (perfect), a subjective pronounal affix or an affix of class C, the objective pronounal affixes must occur before the stem: e.g., /\( \_t^* \) i-\( \_t^* \) i-bi-t/ 'he didn't cut it'.

Words which may be classified structurally as \( V_2^b \) have been defined syntactically as sequences of subject, verb and indirect object. The indirect object affix in such a sequence may be replaced by a noun phrase, but in this case, the phrase must be \( N_3 \), i.e., a noun with a prepositional affix: /\( \_t^* \) g-as/ 'I gave to him'; /\( \_t^* \) g-urgaz/ 'I gave to the man'. Since the phrase \( N_3 \) includes not only utterances of this type, but all combinations of nouns and prepositional affixes, such sequences as /\( \_t^* \) da: s-suk*/ 'he went to the market'; /\( \_t^* \) la igi-n-tbla/ 'it's on the table' may be considered examples of this type of phrase.
Words represented by the structural symbol $V_0$ may be defined syntactically as sequences of subject, verb, direct, and indirect objects: e.g., /i-fa-ias-t/ 'he gave it to him'. A noun phrase of the type N₁ or N² may be added to the sequence to serve as subject or direct object, while a noun phrase of the type N₃ may serve as indirect object. The utterance could then occur as /argaz i-fa a-bukal*i-ufrux/ 'the man gave the jar to the boy'. It should be noted that in utterances of this type, the indirect object affix always precedes the direct object affix. After modal or temporal prefixes, both object affixes occur before the stem and the subjective pronominal affix and after the modal or temporal affix: e.g., /ur-as-t-i-fi/ 'he didn’t give it to him'; /ra-k-t-i-fa/ 'he will give it to you'.

4.3 Particles

The particles may be divided into classes on the basis of their syntactic functions. The first class (P₁) includes the interjections. These forms can be distinguished from other particles because usually they occur as complete utterances, i.e., between two periods of silence or relatively long duration. Some of the more common members of this subclass are: /iih/ 'yes'; /uhu/ 'no'; /ha/ 'here'. In some utterances they may occur before a noun to which the vocative affix has been added: e.g., /iala a-sidi/ 'I hope so, sir'. In these utterances, the falling tone which characterizes the phoneme /I/ is present although the pause between the two words may be shortened.

The second class of particles (P₂) includes those which may be classified syntactically as conjunctions. These particles occur between phrases which are usually syntactically equivalent: e.g., /Ababur l-safr aškun lukt* t-lkm-as/ 'the ship sailed because the time came to him'. In this utterance the conjunction /aškun/ serves to join the two verb phrases either of which could occur as a complete utterance. Another example is found in the utterance /ur-i-li ruż* uaila t-udi-t/ 'there is neither rice nor butter'. Here, the particle /uaila/ joins the two noun phrases. This particle, like the other members of this class, could not join a verb phrase with a noun phrase or a noun phrase with a verb phrase.

The third class of particles (P₃) includes those which may be classified as adverbs. It is possible that some of these have been formed from other morphemes in the language, but additional historical data would be needed to establish this fact. Usually the particles in this class are substitutable for the sequence N₃: e.g., /ur-i-li g-tigmi/ 'he is not in the house'; /ur-i-li gina/ 'he isn’t there'.

The fourth class of particles consists of interrogative words. Almost all of these seem to have (ma) as a constituent. Usually they occur at the beginning of the utterance, but they may also occur between phrases. In this way, they are similar to the particles classified
as conjunctions, but the distribution is different; for the interrogatives may occur between phrases which are not syntactically equivalent: e.g., /manī g ʾ ilā lktāb/ 'where is the book?' may occur as /lktāb manī g ʾ ilā/. In the second utterance the interrogative occurs between the two phrases, but the first is a noun phrase while the second is a verb phrase. A conjunction could not occur between two such phrases. There are two restrictions on the position of interrogatives: they may not occur at the end of a sequence of phrases before a long silence that marks the end of a sentence, nor may they occur between words which are members of one phrase. It would be impossible, therefore, to rearrange the words of the utterance cited above to form the sequence: /lktāb ʾ ilā manī g/. If the sentence contained the phrase N2, the interrogative would not occur between the two words forming this phrase: e.g., /manī g ʾ ilā lktāb n-gūma/ 'where is my brother's book' would not occur as /lktāb manī g n-gūma ʾ ilā/.

Another class of particles (P5) includes those that serve as expletives: e.g., /ʾilād/ 'this is'. The words in this class may be used with noun phrases, N1 or N2, to form a sequence which is equivalent to V2: e.g., /luktāb ʾ ilād/ 'what time is this'; /luktāb ʾ ilamūl ʾ ilād/ 'this is the time of meals'.

4.4 Word Sequence Equations

The following equations are designed to show the relationship between structural and syntactic classes. The capital letters indicate morpheme classes: N = noun, V = verb stem, A = noun affix, B = verb affix, C = noun and verb affix. The numerals and lower case letters indicate subclasses of morphemes: e.g., B5a = direct object pronominal affix that occurs with verbs. The subscript indicates the class of word in terms of morphemic components: e.g., N3 = a basic or derived noun stem with the possessive affix. The raised numerals indicate the syntactic classes.

**WORD SEQUENCE EQUATIONS**

**Noun Phrases**

\[
\begin{align*}
N \sim N_1 \sim N_2 &= N^1 \\
N + V_{4b} &= N^1 \\
N_1 + N_3 &= N^2 \\
N_1 + (N_b + A_3) &= N^2 \\
N_4 &= N^3 \\
N_4 + N^2 &= N^3 \\
N_1 + P^2 + N^1 &= N^1 \\
N_2 + P^2 + N^2 &= N^2 \\
N_3 + P^2 + N^3 &= N^3 \\
N_a + A_6 &= P^1 
\end{align*}
\]
The structure of sentences in Shilha may be clearly stated in terms of the word sequence equations given in the preceding section. Any sequence of morphemes occurring after a relatively long period of total silence and having the contour phoneme /1/ or /t/ may be considered a complete utterance or sentence.

The simplest type of sentence is that consisting of a single word. Some answers to questions may consist of one word, and some exclamations consist of one word. Both occur after a period of silence and contain the contours which indicate sentences. Therefore, they may be considered sentences of this type.

The most common sentence types are those containing a verb phrase. The verb phrase may be V1, V2, V3, or V4. Any sequence of morphemes which is equivalent to one of these phrases may be considered a sentence; therefore, a sequence consisting of a prepositional affix with a personal pronoun and a noun may be considered a sentence: e.g., /gi-s its/ 'in him sleep'. In this utterance the first word is equivalent to V1. When the second word is added, the entire sequence is equivalent to V2 and may be described as a sentence if it occurs between two periods of silence.

Sentences are also formed by using the members of P2 to connect verb phrases. It is possible, therefore, to have sequences such as V1P2V1: e.g., /i-ksim aškun i-hma iḥal/ 'he went in because the
weather was hot'. The linking of any sequence of verb phrases will form a sequence which may be considered a sentence. In some cases, the linking is accomplished by mere juxtaposition of the phrases rather than by the use of a particle.

Examples of these various sentence types will be found in the sample texts which follow.
CHAPTER V

TEXTS

5.0 Introduction

The following texts are given as samples of the material on which the preceding analysis is based. The transcription is phonemic; words are separated by a space. Hyphens are used to indicate morpheme boundaries within a word. Two translations are given with each text. The first is literal; the second, idiomatic.

5.1

1. i-kat:in u:s:n d-bu-mhand ga-n i-mdukal.
   he-was-then wolf with-porcupine were-they friends.

2. ia-ua:s: nkr-n. 3. nga-n n-las. 4. la:ha:n
   One-day rose-they. died-they of-hunger. nothing-to them

5. i-nkr bu-mhand. 6. i-na: i-u:s:n. 7. grua
   what-eat-they. he-stood porcupine. he-said to-wolf. let

8. a-n:s  g-la-t-t-ibhar-t. 9. du-n: sinit-sn. 9. a-fi-n
   went-they both-them. found-they

10. la:ha:n manik ad-skar-n
    garden with-one-wall. nothing-to them how to-do-they

11. lat-sat a-fi-n iat-t-nuk*bi-t. 12. k*:m-n
    to-enter-they. one-hour found-they one-hole. entered-

13. bda-n ar-斯塔-n. 14. u:s:n ar-i-斯塔
    they in-it. began-they are-eating-they. wolf is-he-eating

15. allig i-samar ahlig-n-s. 16. i-ga:*ma u:s:n
    until he-filled stomach-of-him. when-want-they to-leave-they

17. ur-i-ui f a-i-fug
    he-left porcupine. he-stayed wolf. not-he-could to-he-leavo

18. i-na:-las bu-mhand.
    because he-is puffed stomach-of-him. he-said-to him porcupine.

19. ka*ma gina ar-kig-d-i-u:s:ka bab n-t-tibhar-t. 20. i-ngl-k
    stay there until-here he came owner of-garden. he-kill-

21. ar-i-ala u:s:n. 22. ar-i-t-da*lb
    si-ukurai. 21. ar-i-ala u:s:n. 22. ar-i-t-da*lb
    ed-you with-stick. is-he-crying wolf. is-he-begging

23. manik ra-i-skra ba:s a-i-fug.
    how will-he-do to to-he-leave. he-said-to
Once the wolf and the porcupine were friends. One day they got up. They were dying of hunger. They had nothing to eat. The porcupine got up. He said to the wolf, "Let's go eat in a garden." The two of them went. They found a garden with a wall. They had no way to get in. (After) one hour, they found a hole. They went in through it. They started to eat. The fox ate until he filled his stomach. When they wanted to go out, the porcupine left. The wolf stayed. He could not go out because his stomach was puffed. The porcupine said to him, "Stay there until the owner of the garden comes. He will kill you with a stick." The wolf started to cry. He asked the porcupine what to do to get out. The porcupine told him, "Sleep on your back. Put your feet in the air so that when the owner of the garden finds you like that he will throw you out."

One day Žha passed some engineers. They were putting tar on boats. He asked one of them what they were doing. He told him, "We are putting tar on the boats so that they will run on water." When he returned home, he melted some tar. He put it on the donkey's feet. With heat he ran. He began Žha is-saying with-mind-of-him, "The engineer told me the truth."
Once Zha saw a group of students in the street. He invited them to his house to share supper with them. They said, "All right." He went in and told his wife, "Prepare supper. See, we have guests."

She said to him, "There is neither rice nor butter." Then Zha remembered that he had nothing to cook.

He took an empty bowl in to the students and said to them, "If only I had some rice or some butter, I would put it in this bowl for you." Then he left them and went away.

5.4
1. si-brahim i-makl* si-muhmad. 2. i-na-lias
   Mr.-Brahim he-met Mr.-Mohammed. he-told-him
a-salamu-'alai-kum. 3. i-zaub-as si-muhmad ua-'alai-
o-peace-on-you. he-answered-him Mr.-Mohammed and-on-kum usalam. 4. i-sauul si-brahim. 5. i-na-lias mani
   you peace. he-talked Mr.-Brahim. he-said-to him where
t-ki-t gasa:? 6. i-nga-lag umrgi-n-k. 7. i-na-lias
   you-are today? he-killed-us absence-of-you. he-told-him
Mr. Mohammed and you, how are they children of you
with-health-of-you? he told-him Mr.-Brahim nothing bad to us.

Mr.-Mohammed and you, how are they children of you
with-health-of-you? he told-him Mr.-Brahim nothing bad to us.

Mr. Mohammed met Mr. Mohammed. "Hello," he said to him.
Mr. Mohammed answered, "Hello to you."
Mr. Brahim kept talking. "Where were you today?" he said. "We
missed you."
Mr. Mohammed said, "And how are things with you? How is your
family? How is your health?"
"Fine," answered Mr. Brahim. "But the cost of living is killing us."
"What can I say?" said Mr. Brahim. "All of this is caused by the
lack of rain."

1. i-zra* ia-uas; g-suk* ia-fulus ar-i-nza sin-d-
he saw one-day in-market one-rooster is he-selling two-with
mrau n-rial. 2. i-la g-unsk u-utbir. 3. i-na; d-lxf-n-s
ten of-dollars. he is in-size of pigeon. he said with-mind
i-gula suk* i-i-fulus-n. 4. sbaḥ ra-d-aui-g
of-him he is high market for chickens. tomorrow will-her-
fulus li; dar-ng. 5. i-`adl-n. 6. shah-an
carry-I rooster which to-us. he is good. tomorrow-that
i-aui-d fulus s-suk*. 7. i-na; is-ra-t-i-`znz
he-carried-here rooster to-market. he said whether-will-him-
si-taman i-mkur*-n. 8. i-gi-t g-`dlalt.
he-cause-sell with-price he (who) is big. he-put-him in-auction.
9. ur-as-d-i-aui bla sin-d-mrau iguṣt i-`ar;
not-him-here-he-carry only two-with-ten cents he angered
u-fka* u. 10. i-na; i-li-m-suk*-in. 11. sak* sa-g mata gaiad
poor man. he said to-marketers. ask-I what this
t-skar-m? 12. idgam zri-g ia-fulus. 13. i-la g-unsk
you-do? yesterday saw-I one-rooster. he is in-size
One day, he saw a rooster for sale in the market for twelve dollars. He was the size of a pigeon. He said to himself, “The market price for chickens is high. Tomorrow I will bring the rooster we have. He is a good one.”

The next day he brought the rooster to the market. He thought that he would sell him if the price was high. He put him on sale, but he didn’t bring him twelve cents. The poor man became angry. He said to the market people, “What are you doing? Yesterday I saw a rooster the size of a painted pigeon, and he sold for twelve dollars. Each one of you raised his price. This rooster of mine has more colors than that one had yesterday.”

One of the market people went to him and said, “You are crazy. You don’t know one thing. The rooster we were buying yesterday was not a painted rooster. He was a parrot that could repeat the talk of human beings.”

“If that one talks, this one thinks a lot,” answered the old man.
VOCABULARY
The vocabulary, which follows, contains words used by the informant in two or more utterances. The class of each word is indicated by the abbreviation immediately following it. The gender of nouns is given as well as the plural form. The perfect, negative, and habitual forms of verbs are given when a phonemic change occurs. In cases where the perfect and negative forms are phonemically the same as the stem, only the habitual form is given. When all four forms are the same, only the stem is given.

The following abbreviations are used:

| A | Noun affix | coll. | collective |
| B | Verb affix | m. | masculine |
| C | Noun and Verb affix | f. | feminine |
| N | Noun stem | h. | habitual |
| P | Particle | n. | negative |
| V | Verb stem | p. | perfect |
| sg. | singular | intr. | intransitive |
| pl. | plural | tr. | transitive |
CHAPTER VI
VOCABULARY

a - B2 * (nominalizer)
a - B3 * (alternant of ad-)

abagag N, m. (pl. ibugag) a > u wolf
abgar N, m. (pl. ibgarn) a > u cattle merchant
abgao N, m. (pl. ibgažn) a > u acrobat
abhat N, m. (pl. ibhātn) a > u investigator
abidar N, m. (pl. ibidarn) a > u lame man
abiraḫ N, m. (pl. ibiraḥm) a > u town crier
abi'aušarai N, m. (pl. ibi'aušarain) a > u huckster
abkal* N, m. (pl. ibkaln) a > u merchant, shopkeeper
ablad* N, m. (pl. iblad*n) a > u stone slab
ablinka N, m. (pl. iblinkuin) a > u snake
abnal N, m. (pl. ibnain) a > u builder, mason
abran N, m. (pl. ibran) a > u wildcat
abrami N, m. (pl. ibrami ~ ibramin) a > u stranger, foreigner
abrubi N, m. (pl. ibrubrin) a > u Berber
abbu N, m. (pl. ibban) a > u penis
abukad* N, m. (pl. ibukad*n) a > u blind man
abukal* N, m. (pl. ibukal*n) a > u jar
abulis N, m. [Spanish, policia] (pl. ibulisn) a > u police
abxar N, m. (pl. ibxarn) a > u burner of incense
ad - B3 * (modal affix = subjunctive)
-ad C this
-adad* N, m. (pl. idad*n) a > u finger
-adag N, m. (pl. adagn) a > u bush
-adal N, m. (pl. adaln) a > u mantle
-adan* N, m. (pl. adan*) a > u night
-adar N, m. (pl. idarn) a > u foot
-adbag N, m. (pl. idbagn) a > u tanner
-adgag N, m. (pl. idgagn) a > u goldsmith, silversmith
-adif N, m. a > ua marrow
-adil* N, m., pl. grapes
   ia-uaka* u-adil* one grape
-adis N, m. (pl. idasn) a > u stomach
-adn V (p. ad* n; n. id* n; h. tdi* n) be sick, ail
-adrar N, m. (pl. idrarn) a > u mountain
-adu* N, m. a > u odor, smell
-adud* N, m. (pl. idud* dan*) a > u finger
   (alternant of adads*)
aduku N, m. (pl. idukan) a > u shoe
adžar N, m. (pl. adžarn) a > u neighbor
afasi N, m. a > u right side ~ hand
afasli N, m. (pl. ifaslin) a > u person from Fez
afi V (p. ufi; n. ufi; h. tafa) can, find
afka* N, m. (pl. ifka*an) a > u poor man
aflah N, m. (pl. iflahn) a > u farmer
afrus N, m. (pl. ifrxan) a > u boy
afud N, m. (pl. ifadn) a > u knee
afulus N, m. (pl. if ulusn) a > u chicken
afunas; N, m. (pl. ifunas; n) a > u ox
afus ~ afus: N, m. (pl. ifasn ~ ifas; n) a > u hand, handle
agaiu N, m. (pl. iguiu) a > u head
agagn N, m., pl. thunder
agarsan N, m. (pl. agarsonat) waiter
agdi* N, m. (pl. igda*~igdan*) a > u hole
agl V (p. ugul; n. ugul; h. tagul) refuse, be unwilling
aglid: N, m. (pl. igdan) a > u king
agmar: N, m. (pl. igmarin) a > u horse
agru N, m. (pl. iggra) a > u frog
agudi N, m. (pl. iguda ~ igudan) a > u pile, heap
agudeid* N, m. (pl. igudad*) a > u bird
agug V be far away
agul V (p. ugul; n. ugul; h. tagul) hang
agurn N, m., sg., pl. a > ua flour, meal
aguuad N, m. (pl. iguuadn) a > u guide
agzar N, m. (pl. igzarn) a > u butcher
agžif; N, m. (pl. igžaf; i) a > u palm tree
ag B5c to us
agad* N, m. (pl. igad*n) a > ua goat
aganim N, coll. a > u cane, reed(s)
agaras N, m. (pl. igaras; n) a > u street
aggumit N, m. (pl. iggumitn) a > u hall (in urban areas);
stable (in rural areas)
agul N, m. (pl. igul) a > u donkey
agrum N, m., coll. a > u bread
agzaifu N, m. (pl. igzaifa) a > u tall man
aḥanu N, m. (pl. iḥana) a > u room
ahlad N, m. (pl. iḥladn) a > u blacksmith
ablig N, m. (pl. iḥlagan) a > u stomach
ahmal N, m. (pl. iḥmaln) a > u porter
aḥžam N, m. (pl. iḥžamn) a > u barber
ala P1. Oh!
alad P5 this is, the fact is this
alad P5 that is, the fact is that
aidd N, m. (pl. idan) a > u dog
alis N, m. (pl. isan) a > ua horse, stallion
alig P2 until
alur N, m. (pl. alurn) a > ua moon, month
ak B5c to you (m., sg.)
akat N, m. (pl. ikarø) a > ua nut, kernel
akal N, m. (pl. ikalin) a > ua earth, ground, soil
akidar N, m. (pl. ikidarn) a > u draft horse
akit N, m. (pl. ikitarn) a > u horse
akm B5c to you (f., sg.)
aksar N, m. a > u ascent, climb
aksari N, m. (pl. ikarsara) a > u bowl, dish
akuid N, m. (pl. ikuiden) a > u stick
akst N, m. (pl. ikst'n) a > u pirate, robber (insult)
akwari N, m. (pl. ikwaran) a > u fig
al V (pl. ul; n. ul; h. tal) raise
alahad P1 that is enough
alim N, m., coll. a > u/a > ua hay
aman N, m., pl. a > ua water
amarikan N, m. (pl. imarikanin) a > u American
amdar N, m. (pl. imdukal) a > u friend
amdua N, m. (pl. imdua:n) a > u dump, rubbish heap, compost pile
angr N, m. (pl. imgn) a > u sheik
angbarb N, m. (pl. imgarbin) a > u Moroccan (to other Moroccans); stranger
(--to non-Moroccans)
amhda N, m. (pl. imhda:n) a > u student
amks N, m. (pl. imksaun) a > u shepherd
amsmar N, m. (pl. imsmarn) a > u nail
amsex N, m. (pl. imsexarn) a > u waiter
amzma N, m. (pl. imzma:n) a > u police
ams V (p. ums; n. ums; h. tams) take, seize
andalab N, m. (pl. indalabn) a > u beggar
anil N, m., coll. blueing
azu N, m. (pl. una) a > ua well
ansar N, m. (pl. inzarn) a > u rain
anør N, m. (pl. inzarn) a > u carpenter
ar- B3 (progressive tense prefix)
ar V become angry
aram N, m. (pl. iraman) a > u camel
arba'a Nc four
arfak N, m. (pl. irfakn) a > u caravan
argin N, m. (pl. argan:i) a > u kind of tree
argas N, m. (pl. irgasn) a > u man, husband
arki- B4 until
artl N, m. (pl. irtaln) 1/2 kilogram
arud V be clean
aruml N, m. (pl. irumim) r > u Christian, European
a: BSc to him, to her
as V (p. usu; n. usu; h. tas) tie, bind
as; N, m. (pl. usan:) a > ua day
asalamu‘alaikum Hello
as;ardun N, m. (pl. irardan) a > u mule
asaruru N, m. (pl. isura) a > u ditch
asfaž N, m. (pl. isfažn) a > u baker
asil V (p. usi; n. usi; h. tasli) carry
asif N, m. (pl. isafn) a > u river
asimid* N, m. (pl. ismdan) cold, wind
asimud* N, m. (pl. isimud*n) a > u hunter, fisherman
asliu N, m. (pl. asliun) a > u horn of an animal
asikraz N, m. (pl. isikraz) a > u plow
aslim N, m. (pl. islman) a > u fish
asum N, m. (pl. asman) a > ua lightning
asn BSc to them (m.)
asnt BSc to them (f.)
asnuus N, m. (pl. isnas) a > u young donkey
asuguas N, m. (pl. isuguasn) a > u year
asuk; N, m. (pl. isu:ka) a > ua street, road
(see tasukt;)
asfar N, m. (pl. isfarun) a > u thief
asbib N, m. (pl. isuban) a > u he who is gray, old man
asifur N, m. (pl. isifurat) a > u chauffeur
ask V (p. uška; n. uški; h. tašk) come
askun P2 because
asuari N, m. (pl. isuarin) a > u saddle bag
atai; N, m., coll. tea
at*bib N, m. (pl. it*biba) a > u doctor
atbir N, m. (pl. itbirn) a > u pigeon
atbax N, m. cook
at*ma N, m. (pl. it*man) a > u greedy person
atardi N, m. back
auai N, m. speech, talk
au V (p. iwi; n. iwi; h. tawi)
aud bring
auin take
auilt N, m. (pl. lutil) a > ua hare, rabbit
aun BSc to you (m., pl.)
aunt BSc to you (f., pl.)
axbaz N, m. (pl. ixbazn) a > u baker
axdam N, m. (pl. ixdamn) a > u hotel employee, laborer
axdar N, m. (pl. ixdarn) a > u greengrocer
axraz N, m. (pl. ixrazn) a > u shoemaker
azalim N, m., coll. onion
fat-tazalimt one onion
azar: N, m., coll. hair
asgr N, m. a > u bull
asigaau N, m. green, blue
azl V (p. usal; n. usal; h. tazal) run
azalmad N, m. (pl. izalmadn) a > u left side
azru N, m. (pl. izran) a > u stone
azugag N, m. (pl. izugagn) a > u red
azar N, m. (pl. izurn) a > u roof
az V (p. uzja; n. uji; h. ta) permit, let
a'aba V play a trick, dupe
a'ak V remember
a'akas N, m. (pl. i'takazn) a > u cane
a'alu N, m. (pl. i'taln) a > u calf
a'aram N, m. (pl. i'taramin) a > u pile (used as a measure)
a'askri N, m. (pl. i'taskrin) a > u soldier
bab N, m. (pl. idbab) master, owner
baba N, m. (pl. idbaba) my father, my parents
(this word is used only with the possessive pronouns.)
babargiu N, m. (pl. idbabargiu) parrot
babifar N, m. (pl. idbabifar) enjoyer
babibhamum N, m. (pl. idbabibhamum) worrier
babibhana N, m. (pl. idbabibhana) rester
babibudu N, m. (pl. idbabibudu) bather
babibzuaab N, m. (pl. idbabibzuaab) answerer
babur N, m. (pl. baburat) ship
babulad N, m. (pl. idbabulad) stone owner
bag~bag N, m. (pl. idbag) paint
bain V (h. tba)n) be clear, appear
bak V crack (intr.)
balk V clear away, get out
bar N, m. (pl. barat) bar, cafe
bard V (p. bird; n. bird; h. tbar;ad) make cool
brm: V (p. brm; n. brm; h. tbaram) turn around
bas~basas sorrow, trouble
labas dar-i I am well
ur labas dar-i I don't feel so good
baš P2 in order to
bašr V (h. tba) give good news
batata N, m., sg. and pl. potato
ba'ada P3 then, hereafter
bdv V (p. bda; n. bdl) begin, start
bdv* V (p. bda*; n. bdl*; h. ata*) cut, divide
bdl V (p. bdl; n. bdl; h. tbdal) change
bgai\N, m. (pl. ibgaizn) acrobatics
bha P^3 too much, very
bha(a)ra P^3 just now
bhat V (p. bhat; n. bhai; h. tbd) investigate
bl V cut, cross
bid; \sim blv V (h. bdid \sim tbdad) stand
bida* P^3 always
bllag V (p. bllag; n. blill, h. tbllag) deliver
bird V (h. tbirdad) be cool
blizan N, m., coll. and pl. eggplant
bku* V (p. bka*; n. bki*; h. tbka*) remain
bla P^2 without, only
blati N. slowness
blu V (p. bla; n. bli; h. tblu) be old, grow older (n.)
bnadm N, m., coll. (pl. bunadam) human
bnu B (p. bna; n. bni; h. bna:) build
bra N. outside
brahim Abraham
bri V (h. tbrai) rub, grind, wound
brm V (p. brm; n. brim; h. tbram) roll, turn, twist (tr.)
bsa\htk P^1 enjoy it \sim you're welcome \sim good luck
bu- A1 owner of
bublad* N, m. (pl. idbublad*) owner of stone
bufarj ~ butra\N, m. (pl. idbufarj) enjoyer
bufugus N, m., coll. dates
buizgarn N, m. (pl. idbuizgarn) cattle owner
bukd* V (h. bukad*) be blind
bulhama\N, m. (pl. idbulhamum) worrier
bulhana; N, m. (pl. idbulhana) rester
buludu* N, m. (pl. idbuludu*) bather
bulu\tal N, m. (pl. idbulu\tal) hotel owner
bumhand N, m. (pl. idbumhand) porcupine
bxar V burn incense
bza\N Nc much
bzig V (h. tbez) be puffed, wet, angry
bzik N, m., coll. force
b\zh V (p. b\zh; n. bl\zh; h. tb\zh) crush
d C (emphatic affix)
(with nouns a prefix; with verbs a suffix)
d- AA with
-d C (see -ad) here, now, this
dabra: V (p. dabr;i; n. dabr;i; h. tdabar;) lock for
dada N, m. (pl. idada) grandfather

(may be used only with possessive pronoun)
dag P3 again
daliib V (p. dal;iib; n. dal;iib; h. tda*lab) ask for, beg
dalisim N, m. (pl. du*lam) unjust person
dalisnin N (pl. idalisnin) guarantor
dalismant N (pl. idalismant~dmanat) guarantee
dalisr N, m. (pl. idalisrin) breast
dar A4 to, at
daua V (h. tdaua) cure
dibart N, f. (pl. dbrat) sore
dbilik N, m. (pl. dbaliik) bracelet
dbag N, m. (pl. dbag) tanning fluid
dbr* V (p. dbr*i; n. dbr*i; h. tdbar*) do something without help
dbr V (p. dbri; n. dibri; h. tdbr) injure
dgal N, m. (pl. digal) badness, affliction
dhar* V (h. tdhar*) appear
dhar N, m. (pl. dhur*) back
dhan V (p. dhan; n. dihan; h. tdhan) become dizzy, faint, nervous, frightened
dhan N, m. sickness
ddb N, m. gold
daf*; N, m. (pl. difan) guest
dl V (h. tdli) cover
dlab N, m. (pl., f. tidlahin) watermelon
dm V (n. dim; h. tdm) sink, dive
dns*i V (p. dns*i; n. dns*i; h. tdns*i) think
dni V (h. tdni) be fat, thick, become fatter (h.)
dr*i V (p. dr*i; n. dir*i; h. tar*i) fall, slip
dr: V (h. tdr:) remain alive
dr*i V (p. dr*i; n. dr*i; h. tdar*i) be handsome, polite, pretty (of children)
dret N, f. (pl. dru*ret) step
dru V (p. dar; n. dri; h. tdru) 1) be deep, become deeper (h.)

2) join
dru* N, m. (pl. dru*i) poor man
drus V (h. tdrus) be little, be small (quantity)
du A5 under
du: V (p. da:*; n. di:*; h. tdu:) go
dua N drug, medicine
dub V (h. tduab) melt (tr. and intr.)
duhur* N afternoon prayer
dunit N world
dusru* V (p. dusru*; n. dusri*; h. tda*ru*) injure, harm, pain
gr V (p. gr; n. gr; h. gar) touch
gru V (p. gra; n. grl; h. tgru) pick up
gru: V (p. grai; n. grli; h. tgrai) be last
gudm: V (p. gudm; n. gudmi; h. tgadm) turn over (tr.)
guma N, m. (pl. altmain) my brother
  (may be used only with possessive pronouns)
gun V (p. gun; n. gin; h. tgun) sleep
gut V be abundant, accomplish much
guz V descend
gzar V (p. gzar; n. gzir; h. tgzar) butcher
gzul V (h. gcal) be small, short
g- A4 in, at
-g B5a I
gasii V (p. gasi; n. gasi; h. tgasii) become faint, get dizzy
galaad Nb this which
galan Nb that which
gall Nb what, which
gakudan P3 from time to time, then
gars V (p. gurs; n. gurs; h. kars) slaughter
gasa; P3 today
gaz V (h. kaz) bury
gf: V (p. gfr; n. gfr; h. tgfar) forgive, relent, be merciful
gld P3 here
gikina P3 in that way, so
gilad P3 now
gilan P3 then
gina P3 there
gude B3 at night
guran P3 over there
gml V (p. gml; n. gml; h. tgmal) be musty, smell mouldy
gmu V (p. gma; n. gml; h. tgm) paint, be painted
gnu; V (p. gna; n. gml; h. tgnu:) be rich, become richer (h.)
gr V (p. gra; n. grl; h. k*ra) read, call out
grua N, m. cold (disease)
gruaah V let, allow
gua Nb the one
guali Nb the one who
gui Nb these
gula V (n. guli; h. tguulu) be high
guli V (h. ak*laa) climb, boil
guni: V sing
gunšk Nc as big as
gur* V (h. tkur*) be hard, get hard (h.)
gur*ru V (p. gu*ra; n. guri; h. tgara) deceive, cheat
gus V  be clean

guli N  August

gul V (p. guša; n. gušš; h. ṭgul)  cheat, deceive

gul N (h. ṭgul)z  be right, tell the truth

gul V (h. ṭgul)  be tall

ha P1  see, look, here

had V  be present

hakak N  force

hall P3  only

han V (p. hna; n. hni; h. thnu)  be quiet

har V (h. thar)  tickle

harhar V (h. tharhar)  bray

harsha N, m. (pl. idharma)  clown

hati P5  here is

hbil V (h. thbil)  become silly

hdn V (h. tahdn)  be quiet

hdu V (p. ḫda; n. ḫdi; h. ḫda)  present, give

hindzi V (h. thndaz)  calculate

hmim V (h. thmam)  worry

hn: V (p. hnu:; n. huni:; h. thana:)  rest

huul V  be troubled

hzm V (p. ḫzm; n. ḫzm; h. ḫzam)  invade

ḫabaršad N, coll.  spice

ḫakan* P3  perhaps

hall V (p. ḫulal; n. hulil; h. ḫalal)  beg, request

hal V (p. ḫalas; n. halis:; h. thalas:)  saddle

ḫamam V (n. ḫamim; h. ḫamam)  bathe

ḫamu V (p. ḫama:; n. ḫami; h. ḫamū)  protect

ḫana N  dear

ḫunu: V (p. ḫuna:; n. hani:; h. thana:)  pity

ḫazar V (p. ḫurar; n. hurur; h. ḫurar)  free, release

ḫarg V (p. ḫarg; n. ḫirg; ḫir:; h. ṭrag)  burn (tr. and intr.)

ḫarir N, m.  silk

ḫark V (h. ḫarik;)  shake, stir, move (tr. and intr.)

ḫarm V (p. ḫarm; n. hirm; h. harm)  be forbidden

ḫarš V (p. ḫarš; n. ḫirš; h. ḫraš)  be sharp, be intelligent

ḫaru: V (p. ḫara:; n. ḫar:; h. tharu:)  be tough, bitter, strong, hard
to convince, hard working

ḫarz V (p. ḫarz; n. ḫirz; h. ḫraz)  endure

ḫbu V (p. ḫba; n. ḫbi; h. thaba)  cover

ḫdad V  forge

ḫdr V (h. ḫdar)  be low

ḫduš V (p. ḫdaš; n. ḫdiš; h. ḫdaš)  hide

ḫfu V (p. ḫfa; n. ḫfi; h. ḫfu)  be dull; become duller (h.)
hlu V (n. hli; h. thia) live
ẖalu V (p. hila; n. hlii; h. hila;) be permitted
hkm V (p. hkm; n. hkim; h. thkm) judge
ẖma V (p. hma; n. hmii; h. thma) be hot
ẖmil V (p. hamil; n. hamil; h. thamal;) load, carry, endure
ẖram N (pl. harima) dance
ẖsa V (p. hsa; n. hsi; h. thsa) feel
ẖsab N, m. (pl. ẖsabat) amount, sum
ẖsu V (p. ẖsu; n. hsi; h. thsa;) memorize
hta P2 also

- A4 to, for
- B5a he
- B5b me
- n A2 (plural affix)
- n B5a the one who
- ila: P1 hurry up
- ila* P1 certainly, yes, all right, that's good
- iamt B6 imperative (f., pl.)
i'an Nc, m. one
i'at Nc, f. one; anything, nothing (with negative)
- iat B6 imperative (m., pl.)
ibṟ N, m. (pl. ibṟn) feather
ibaun N, m. beans
iblis N, m. devil
ibril N April
ibrir N February
ibrin N, m. meal, ground corn or wheat
ibxu/*N N, pl. insect
id* N, m. (pl. ada*N) night
idamN N, m. blood
idgam P3 yesterday
idla N, m. black
ifis N, m. hyena
ifr N, m. (pl. ifraun) leaf
ifrurain N, m. crumbs
ifrg N, m. (pl. ifrgan) wall of thorns, hedge
ig A5 on top of
igigil N, m. (pl. igigal) orphan
igiz N, m. (pl. igizn) small camel
igligiz N, m. (pl. igligizn) beetle
iglin N wretch
(appears formed from an obsolete verb stem)
igna N, m. (pl. igina) sky
ig̱di N, m. tree trunk
(alternant of agzdi)
..., if
ins N, m. ashes
iga N, m. (pl. igaln) cloth measure=the distance from elbow to
... of middle finger

igur N, m. shoulders
ilair N January
ilah P1 God help me!
il N, m. (pl. ilfan) hog
ili V (p. laj n. li) be (location)
ilis N, f. (pl. istis) daughter
ilm N, m. (pl. ilmaun) leather
ima- P2 and
imig N, m. (pl. imign) battle
imlk Nc a little
imil P2 but, if
iminn N, m. sweetness
iminsi N, m. (pl. iminsauun) supper
imkli N, m. (pl. imklaun) lunch
imlal N, m., coll. sand
imzdi N, m. (pl. imzdan) guest, visitor
ina N, f. my mother
... (this word is used only with possessive pronouns)
in V (p. na; n. ni; h. tni) say
ingbi N, n. (pl. ingbuun) guest
inšala; P1 I hope so
ird V (p. arud; n. arud; h. tarud) be clean
irg N, m. (pl. irgan) nut shell
is- B4 (interrogative affix)
ism N, m. name
itri N, m. (pl. itran) star
its N, m. sleep, drowsiness
itus N, m. (pl. ituans) son
itusnsukt* N, m. urchin, tramp
itusnxali N, m. cousin
iuliusa N July
iuniuh N June
ixf N, m. (pl. ifxauun) head, mind, self (with possessive pronoun)
ixs N, m. (pl. ixsan) bone
izd P5 (interrogative particle)
izi N, m. (pl. izan) fly
iziki: N, m. (pl. izakan) sparrow
izimr N, m. (pl. izamarn) ram
iznak* N, m., pl. streets
izri N, m. glance
iz*ad N, m. clothing (s. az*ud = rug)
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>la P¹</td>
<td>no</td>
</tr>
<tr>
<td>labas</td>
<td>nothing wrong</td>
</tr>
<tr>
<td>labudat P⁵</td>
<td>it is necessary</td>
</tr>
<tr>
<td>lagar N, m. (pl. lagarat)</td>
<td>station, depot</td>
</tr>
<tr>
<td>lahl N, f.</td>
<td>wife</td>
</tr>
<tr>
<td>laḥ P⁵</td>
<td>there is</td>
</tr>
<tr>
<td>lak*raḥ A⁵</td>
<td>beside</td>
</tr>
<tr>
<td>lala: N, f.</td>
<td>miss, madam (used only with first name)</td>
</tr>
<tr>
<td>larub Nc</td>
<td>three-fourths</td>
</tr>
<tr>
<td>laʿafit N, f.</td>
<td>fire</td>
</tr>
<tr>
<td>lbab N, m. (pl. lbiban)</td>
<td>gate, door</td>
</tr>
<tr>
<td>lbakit N, m. (pl. lbakitat)</td>
<td>package</td>
</tr>
<tr>
<td>lbaban N, m., coll.</td>
<td>bananas</td>
</tr>
<tr>
<td>lbgar N, m. (pl. lbguri)</td>
<td>cattle</td>
</tr>
<tr>
<td>lbḥar N, m. (pl. lbḥur*)</td>
<td>sea</td>
</tr>
<tr>
<td>lbḥat N, m.</td>
<td>investigation</td>
</tr>
<tr>
<td>lbigri N, m., coll.</td>
<td>beef</td>
</tr>
<tr>
<td>lbit N, f. (pl. lbiut)</td>
<td>room</td>
</tr>
<tr>
<td>lbitlud*</td>
<td>wash room</td>
</tr>
<tr>
<td>lbni ~ lbni N, m., sg. and pl.</td>
<td>building</td>
</tr>
<tr>
<td>lbruk* N, m., coll.</td>
<td>plums</td>
</tr>
<tr>
<td>lbsis N, m.</td>
<td>cereal</td>
</tr>
<tr>
<td>lbxur* N, m.</td>
<td>incense</td>
</tr>
<tr>
<td>lbzár N, m., coll.</td>
<td>pepper</td>
</tr>
<tr>
<td>lazm P⁵</td>
<td>it is necessary</td>
</tr>
<tr>
<td>ldi V</td>
<td>pull</td>
</tr>
<tr>
<td>lfakit N, m., coll.</td>
<td>fruit, nuts</td>
</tr>
<tr>
<td>lfarḥ N, m.</td>
<td>pleasure</td>
</tr>
<tr>
<td>lfdur* N, m.</td>
<td>breakfast</td>
</tr>
<tr>
<td>lfilḥ N, m.</td>
<td>success</td>
</tr>
<tr>
<td>lfurt N, m. (pl. lfurt)</td>
<td>boat</td>
</tr>
<tr>
<td>lhus N, m.</td>
<td>money</td>
</tr>
<tr>
<td>ligaru*~igaru N, m., sg. and pl.</td>
<td>cigarette</td>
</tr>
<tr>
<td>lgira: N, m.</td>
<td>battle field</td>
</tr>
<tr>
<td>lguaẓ V (h. tilguag)</td>
<td>be soft, become softer (h.)</td>
</tr>
<tr>
<td>lgudam N, m.</td>
<td>front</td>
</tr>
<tr>
<td>lgurnt N, f. (pl. lgurnat)</td>
<td>slaughter house</td>
</tr>
<tr>
<td>ligarb N</td>
<td>Morocco, west</td>
</tr>
<tr>
<td>ligumni N, m., sg. and pl.</td>
<td>lamb</td>
</tr>
<tr>
<td>liguat N, f. (pl. laguat)</td>
<td>noise</td>
</tr>
<tr>
<td>liguṭ N</td>
<td>deception, fraud</td>
</tr>
<tr>
<td>lhaz: N, m.</td>
<td>tickling</td>
</tr>
<tr>
<td>lhna: N, m.</td>
<td>peace, rest</td>
</tr>
<tr>
<td>lḥad: N</td>
<td>Sunday, limit, end</td>
</tr>
<tr>
<td>Arabic Word</td>
<td>English Translation</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>lhaa N, m. (pl. lhaaulat)</td>
<td>weather, atmosphere</td>
</tr>
<tr>
<td>lhalua N, m. (pl. lhaluat)</td>
<td>cake</td>
</tr>
<tr>
<td>lhamam N</td>
<td>bath</td>
</tr>
<tr>
<td>lhamil N, m. (pl. lhamul)</td>
<td>load</td>
</tr>
<tr>
<td>lhana: N, m.</td>
<td>henna</td>
</tr>
<tr>
<td>lham ~ lhamas N, m., coll.</td>
<td>chickpeas</td>
</tr>
<tr>
<td>lharf N, m. (pl. lhu*ruf)</td>
<td>letter of the alphabet</td>
</tr>
<tr>
<td>lhaatr N, f. (pl. lhauatu)</td>
<td>thing, clothing (pl.)</td>
</tr>
<tr>
<td>lhasimt N, f. (pl., m. lhaazum)</td>
<td>bunch</td>
</tr>
<tr>
<td>lhib N, m.</td>
<td>milk</td>
</tr>
<tr>
<td>lhma N, m.</td>
<td>heat</td>
</tr>
<tr>
<td>lhmusat (pl.)</td>
<td>excessive heat</td>
</tr>
<tr>
<td>lhrir N, m.</td>
<td>silk</td>
</tr>
<tr>
<td>lhskat N, f. (pl. lhskat)</td>
<td>lamp</td>
</tr>
<tr>
<td>llu* ~ lulu* N, m. (pl. lulu*)</td>
<td>stable</td>
</tr>
<tr>
<td>li: N</td>
<td>who (relative)</td>
</tr>
<tr>
<td>lig B</td>
<td>when</td>
</tr>
<tr>
<td>lilali N, f.</td>
<td>nights, winter</td>
</tr>
<tr>
<td>likksu N</td>
<td>kuskus (a food)</td>
</tr>
<tr>
<td>limari N, f. (pl. limaraiat)</td>
<td>mirror</td>
</tr>
<tr>
<td>litru N, m. (pl. litruat)</td>
<td>litre</td>
</tr>
<tr>
<td>lka*hua N, m.</td>
<td>coffee, cafe, bar gratuity</td>
</tr>
<tr>
<td>lkalb* N, m.</td>
<td>heart</td>
</tr>
<tr>
<td>lkm N, m. (pl. likmunat)</td>
<td>truck</td>
</tr>
<tr>
<td>lkar* N, m.</td>
<td>measure used for grain, approximately one gallon</td>
</tr>
<tr>
<td>lkarit N, m.</td>
<td>paper</td>
</tr>
<tr>
<td>lk*blit N, m., pl.</td>
<td>people, tribes</td>
</tr>
<tr>
<td>lk<em>lum N, m. (pl. lk</em>lum)</td>
<td>pen</td>
</tr>
<tr>
<td>lkm V (h. tilm)</td>
<td>arrive, reach</td>
</tr>
<tr>
<td>lkr N, m.</td>
<td>rent</td>
</tr>
<tr>
<td>lktab N, m. (pl. lktub)</td>
<td>book</td>
</tr>
<tr>
<td>lktan N, m.</td>
<td>cotton cloth</td>
</tr>
<tr>
<td>lkurs N, m.</td>
<td>bench, chair</td>
</tr>
<tr>
<td>lku*uat N, m.</td>
<td>pander (used in insults)</td>
</tr>
<tr>
<td>lmaid N, f. (pl. limadi)</td>
<td>table</td>
</tr>
<tr>
<td>lmakla N</td>
<td>meals, food</td>
</tr>
<tr>
<td>lmaxzin N, m.</td>
<td>government</td>
</tr>
<tr>
<td>lmdad N, m.</td>
<td>ink</td>
</tr>
<tr>
<td>lmdint N, f.</td>
<td>city</td>
</tr>
<tr>
<td>limt N, m. (pl. limtatu)</td>
<td>meter</td>
</tr>
<tr>
<td>lmkib N, m.</td>
<td>bowl</td>
</tr>
<tr>
<td>lmnun ~ lmnun N, m.</td>
<td>melon</td>
</tr>
<tr>
<td>lmzik N, m.</td>
<td>fare</td>
</tr>
<tr>
<td>lmsilah N, m.</td>
<td>clown, minstrel</td>
</tr>
<tr>
<td>lmsuda N, f.</td>
<td>occasion</td>
</tr>
</tbody>
</table>
Imugrib N  Morocco
Imus N, m.  knife
Im'alim N, m.  engineer
Im V (p. 1sa; n. 1sl; h. tla)  dress
Imni N  Monday
Lubia N, m., coll.  string beans
Ludu N, m.  hot water for washing before prayer, act of washing before prayer
Luh V (h. tlaḥ)  throw away, lay an egg
Luh V  throw out
Lukan P  if...then
Lukid N, m.  matches
Lukil N, m.  lawyer
Lukt N, f.  time, hour
Lurak N, m., pl. (sg. urak)  leaves
Lustal N, m.  hotel
Lualii N, m. (pl. luuliiia)  prophet
Ixamit N, f. (pl. ixamiiat)  curtain
Ixar N, m.  material, goods
Ixatr N, m.  desire
Ixmis N  Thursday
Ixuluk N, m.  person
Ixnst N, f.  bag
Izaub N, m.  answer
Ižam'a  Friday
Iždid N, m. (pl. ižuad)  goodness
Ižib N, m. (pl. ižib)  pocket
Ižn'at N, m., sg. and pl.  group
Ižuab N, m.  answer
I'ab V (p. i'ab; n. i'ib; h. tla'ab)  play (games, tricks)
I'abrt; N, m.  a measure for grain equal to 4 lkaed*
I'alad N, m. (pl. i'adad)  holiday
I'akl N, m. (pl. i'aukul*)  mind
I'alu N, m.  height
I'am N, m. (pl. 'am)  year
I'arba N  Wednesday
I'ark N, m. (pl. i'arku*)  vein, root
I'as N, m.  hunger
I'askar N, m. (pl. i'askar)  soldier
I'auaisir N, m.  holiday season
I'azib N, m. (pl. 'ažub)  wonder, miracle
Ma  what
Ma  nothing, anything (with negative)
Mag V.  fight
matuh N  May
makhat N  magh N  V  meet
makla N  V  meet, look
malab V (h. tmalb) be salty
man N  who, what
manaku P^4  when
mani P^4  where
manik P^4  how
mansa P^5  where is, where are
marshba P^1  welcome
march N  March
matas P^4  which one
mati V  wait for a long time
matnt V  delay, be late, take a long time
matnit N  good things
ma'alab N  ma'alab P^4  if
ma'ana P^4  why
ma'da P^2  without, except
mbarak P^1  happiness
mdl V  reach, catch
mdla V  be buried
mgot V (h. mgot) sprout, plant
mgur V (h. mgur) grow bigger
ma N  (pl. idmia) one hundred
ma'd N  m. people
maim V (h. timim) be sweet
mimash N  evening
minbad P^3  after
minsk P^4  how much
mit N  whose
mkaal V  tend sheep, cattle
mkur V  be large
mla V (p. mali; n. mali; h. only) direct, conduct, show
mlha P^1  that's fine
mlul V (h. tmul) be white, grow whiter (h.)
mnaa P^4  how many
mrau Nc  ten
miriam Miriam
mead V  be very sharp
msak N, m. (pl. msakin) poor fellow
mte V (p. mte; n. mut; h. mat) die
mun V (h. muna) accompany
murab V (p. murab; n. musal; h. tmusul) move, tremble
mali V (h. tmal) be small, grow smaller
ritzy N, m., coil, money, currency, dollars
ri8 V give off an odor
ri8 N, m. (pl. lariah) wind
riht N, f. odor
ri8 N, m., pl. feathers
rks* V (p. rkas*; n. rksi*; h. trkas*) dance
rmv V be tired
ri8 N, m. (pl. rta*) 1/2 kilo
ruah V let, permit
ruu V (p. rua; n. rui; h. truua) be beautiful
rus* N, m., coll. rice
rr V (p. rz; n. irs; h. trs) break
rra N, f. (pl. rru) turban
rru V (p. rra; n. rji; h. trja) hope
r'ad V (h. tr'ad) thunder
s- A4 to, toward
saj Nc seven
safr V sail
safr V travel
sag~sg V (p. sag; n. sig; h. tsag) buy
sak*sa V ask
safl N, m. summer
saht P3 right
saht N, f. health
samh V forgive
saruat V thresh
sat N, f. time, hour
saual V (p. saual; n. sauul; h. tsaual) speak
sbaN N, m. morning
sbaN P3 tomorrow
s+bah V wake up
sba'in V make clear
sbg V paint
sbib~zbid V make stand
sbr V (p. sbr; n. sbr; h. sbar) move slowly
sd6 Nc six
sdrus~zdruš V reduce
sfar V be yellow
sfau V (p. sfau; n. sfal; h. tefau) be bright
sfinaž N, m. doughnuts
sfis: V calm, soothe, quiet
sfis V melt (tr.)
sfuds V wipe, sweep
sgudi~zgudi V pile
ṣhara N, m. (pl. ṣhair) desert
ṣdar V teach
ṣhur* N breakfast before sunrise during the month of fasting
ṣl- A4 with, by means of
ṣlib N Saturday
ṣidi B1 (formal) sir, mister
ṣsi familiar form
ṣlgi V (h. ṭagil) look for
ṣsimana N, m. (pl. ṣimpanat) week
ṣsimgi V plant
ṣsimus Nc five
ṣsin Nc two
ṣsinat N, f. occupation, profession
ṣsird V wash
ṣsirs V place
ṣsirur N, m. shine
ṣskr V (p. ṣkr; n. skir; h. kar) do
ṣskud* V (h. skaad*) frighten
ṣskus V (h. takus) sit
ṣsl V (p. sla; n. sli; h. sla:) hear
ṣsslataf N, f. merchandise
ṣsm V take to a destination
ṣsm N, m. poison
ṣsmah N, m. ink made from burnt wool
ṣsmak* V look for
ṣsmid* V be cold
ṣsmun V collect
ṣsn V (p. san; n. sin; h. san:) know, understand
ṣsgl V turn on the water
ṣsraf V (h. ṭsraf) spend
ṣsrbb V (p. ṣrbal; n. ṣribh; h. ṣribah) reward
ṣsrdu* V cause to accept
ṣsr N, m. change (money)
ṣsrrir N, m. (pl. srar) bed
ṣsrzm N, m. (pl. srażm) window
ṣsu V (p. su; n. su; h. su:) drink
ṣsudu V (p. suda; n. sudi; h. tsuda) ride (on a horse)
ṣsuf V blow
ṣsuṣ V (h. ṣufus) spit
ṣsugan V be black
ṣsugul V cause to climb, boil (tr.)
ṣṣuk* N, m. (pl. lāṣuak*) market
ṣṣukur ~ ṣṣukuur* N, m. sugar
ṣṣul- B4 never, not yet
ṣṣus V (h. susa) shake (tr.)
suua V   cost
sxsar V   spoil
s'adl V   make good, repair
sa V   (p. ša; n. ši h. šta)   eat
salada N   lettuce
šatir V   be wise
ša'ar N, m.   hair
šebikat N, f. (pl. šebikat)   net
škr V   (p. škr; n. škr; h. škar)   steal
šgl V   (h. šgal)   work, be busy
šhar N, m.   moon, month
šib V   age, become gray
šimidifir N, m.   train
ška* V   (h. ška*)   be hard, cruel, dangerous, difficult
škal N, m. (pl. škal)n   hobble
škr V   thank
škêm V   take in
šlhait N   Shilha
šm'a N, m.   candle
šrk V   (p. šrk; n. širk; h. šarak)   share
šul* N, m.   job
šur. V   slow
šutambrit N   September
šurt N, f. (pl. šurti)   tree
ś B5a   she
ś B5b   him
ś ś B5b   her
štabrat N, f. (pl. štabrat)   letter, correspondence
štadwalt N, f. (pl. štadwait)   pot, inkwell
štaf V   have
štafriest N, f., coll.   pear
štafukt N, f.   sun
štafulust N, f. (pl. štadwait)   hen
štafunast N, f. (pl. štadwait)   cow
štafruct N, f. (pl. štadwait)   girl
štagana N, f.   sleep
štagant N, f. (pl. štagant)   forest
štagift N, f. (pl. štagift)   carpet, mat
štagdurt N, f. (pl. štagdurt)   large earthenware pot
štaglait N, f. (pl. štaglait)   egg
štaglit N, f. (pl. štaglit)   queen
štagvnžauit N, f. (pl. štagvnžauit)   spoon
   (from agunka 'ladle')
štagut N, f.   fog
tağlıf N, f. (pl. tigli̇f) - small palm tree
tağlett N, f. (pl. tiglett) - goat
tağlus N, f. (pl. tiglus) - donkey
tağri N, f. (pl. tigrad) - shoulder
tabanut N, f. (pl. tibuna) - store
talgia N, f. - sp. and pl. - pair
taltmatin N, f. - pl. sisters
taksi N, f. - powder
takat N, f. (pl. takatin) - family, fireplace
taksi N, f. - milk
taksi N, m. (pl. taksiat) - taxi
taksart N, f. (pl. tiksarin) - hill
taktulat N, f. - robbery
takurt N, f. - noise
tatlib N, m. (pl. tilba) - teacher
tałuht N, f. (pl. tiluha) - blackboard
talunt N, f. (pl. tilunin) - strainer
tam N - eight
taman N, m. (pl. tamanat) - price
tamart N, f. (pl. timarin) - beard
tamazirt N, f. (pl. timizar) - countryside
tamdukul N, f. (pl. timdukal) - friend
tamgarit N, f. (pl. timgarin) - woman, wife
tamubil N, f. (pl. tamubilat) - bus (in rural areas)
tanut N, f. (pl. tiuna) - small well
tanutfi N, f. (pl. tinutfa) - cistern
tanıcart N, f. - carpentry
tart A5 - near
tarşalt N, f., sg. - dollar, bill
tartik N, f. (pl. tarikin) - saddle
teruans (see tula) -
tas V - sleep
tasar̄dunt N, f. (pl. tisar̄dan) - mule
taskut N, f. (pl. tikkea) - pot
tasın N, f. (pl. täsmiunin) - needle
tasraft N, f. (pl. tisarin) - granary
tasrgult N, f. (pl. tisrgal) - lid
takhit Shilba
tasukti N, (pl. tisuka) - street
tautilit N, f. (pl. tisuna) - handkerchief
takart N, f. (pl. tikarin) - small bag
tatbirlit N, f. (pl. titbirin) - dove
tatse N, f. - laughing
tauarukti N, f. (pl. m. luvaruk) - leaf
tauka N, f., sg. and pl. - worm
taxdatm N, f. (pl. taxdim) cleaning woman
taxsait N, f. (pl. tixasai) squash
taxalit N, f. (pl. tisula) prayer
taxant N, f. (pl. taxanin) child
taxasfit N, f. (pl. tazasfin) bowl
taxbanit N, f. (pl. tazbanin) bowl
taxiz N, f. (pl. tiaazin) frying pan
takir-taak N, m. (pl. tataakir) wealthy man, merchant
tam N, m. (pl. tam) food, grain
tama A5 near, beside
tbla N, f. (pl. tblat) table
tfah N, f., coll. apples
tfar V follow, pursue
  mintak altifart how much do you follow me = what do I owe you
tyalgal N, f. echo, one who talks too much
tgaus N, f. (pl. tgausi:tin) thing
tiba V push
tibhart N, f. (pl. tibharin) garden
tidi N, f. (pl. tadiuin) height, height of a man (used as a unit of measure)
tifaut N, f. (pl. tifauin) light
tili N, f. meat
tifliut N, f. (pl. tifliuin) door, gate
tigmi N, f. (pl. tigma) house
tigdit N, f. (pl. tigadin) small log, beam, rafter
tigri N, f. reading
tigai N, f. length, height
tilara N, f. (pl. tilarat) airplane
tini N, f., coll. dates
tili N, f. (pl. tatin) ewe
timkilt N, f. (pl. timkiltin) bowl, first dish served at a meal
timagida N, f. (pl. timagadiuin) mosque, school
tinglit N, f. English (language)
tinuit N, f. cooking, food
tira N, f. printing
tirgi N, f. (pl. tirgiuin) fever, heat
tirkmin N, f., coll. turnips
tint N, f. salt
titliit N, f. (pl. titliin) tray
tit N, f. (pl., f. aln) eye
tiuititi N, f. (pl. tiuititiuin) evening
tiizanin N, f. midday prayer
tizait N, f. (pl. tisua) bee
tiziit N, f. (pl., m. iziutan) hurricane
tiziuba N, f. robes
tak=bit N, f. (pl. tik=bit) tribe
stt N, f. (pl. tik=al) time, occasion
taba N, m. snow
to N, f. banana
lu N, m. snow
t-m B5a you (m., pl.)
t-mt B5a you (f., pl.)
ma N greed
tmain N, f. barley
tn B5b them (m.)
tnt B5b them (f.)
tnak=bit N, f. (pl. tinak=ba) hole
tnitlit N, f., coll. lentils
5a Nc nine
asa V (h. atsa) laugh
t-t B5a you (sg.)
tub N, m. cloth
tubis N, m. (pl. tubisad) bus
tudit N, f. butter
turgza N, m. strong man, hero
tusu V cough
tusut N, f. cough
tur=shut N, f. hope
tu=zt N, f. something good
tu=shut N, f. stench
ua- A6 (vocative affix)
ualala ualla P2 nor, neither, and not
ualakin P2 but
ualu Nb nothing
uxa P1 yes, certainly, all right
udad N, m. (pl. udadn) antelope
udai N, m. (pl. udain) Jewish man
udm N, m. (pl. udman) face
ufi V (h. tufi) blow, breathe
ufat N, m. (pl. ufatn) rake
ug V (p. uga; n. ugi; h. tuga) shine
ug V (p. uga; n. ugi; h. tuga) wash
ugad V (h. tugad) be frightened
ugz V get down, get off
uhu P1 no
ukan P2 hardly, only
uktub N October
u4 P2 and
ultma N, f. (pl. taitmatn) my sister
(always used with possessive pronoun)
umili N, m., whiteness
unsad N, m., weaving
ur - B4 not
urig V (p. urag; n. urig; h. tiurag) be green, be yellow
umida N cold
usin N, m. (pl. ušainin) wolf, jackal
ut V (h. tkat) strike, hit
utaš V (h. tutasi) kneel
uri V return (intr.)
ux N, m. (pl. uxen) tooth
uxšan V (p. uxšan; n. uxšin; h. tuxšin) be disagreeable
uxn V (p. usni; n. uxšin; h. tušan) weigh
uzr V sink, go down
uzad V (p. uzid; n. užid; h. tužad) prepare
xal V leave
xalas: V (p. xulua; n. xulias; h. txaša:) pay for
xalat: V (p. xułat;) mix, mingle
xali N, m. (pl. idxalli) maternal uncle
xalti N, f. (pl. idxalti) maternal aunt
xamim V (h. txamam) consider
xamzn Nc fifty
xatr N, m. wish, pleasure, desire
xasunu N, m. coll. carrots
xdm V (p. xdam; n. xdim; h. txdam) work
xst V (p. xsar; n. xsi; h. txsar) spoil, rot
xusu: ~xus: V (p. xsu; n. xsu; h. txsu) be missing, be lacking
xta Nb, f. the one
xtalan Nb, m. no one
xtali: Nb, f. she who
xxxu V (p. xxa; n. xxx; h. txux) be empty, deserted
xdag V (n. xdid) live, reside
xdar V (p. xdar; n. xdir; h. dzdar) be able, can
xdu V (p. xda; n. xdid) grind
xgr V (p. xgar; n. xgir; h. džgar) cause to touch, pass by, walk on
xgrur V (h. xgrur) smear
xilt N, m. tar, pitch
xigz V (h. xigiz) walk
xiga V (p. xiga; n. xigiu; h. xigau) be green
zil P3 early
zit N, m. oil
ziljun N, f., pl. objects
zig V (p. zig; n. zlig; h. dzlig) slip
zilat N, f. earthquake
alm V (p. al; n. al; h. dal) peel, pare
ans V (p. ansa; n. ans; h. ansa) sell
arl V (p. zra; n. zra; h. zra) see
art V (p. zrub; n. zir; h. darab) hurry, hasten
art V (p. sr; n. sr; h. sar) pass by
art V (p. zra; n. zra; h. zra) cause to pass, pass with
sug V (h. tsug) milk
sugul V (p. sugulu; n. sugul; h. tsug) be red, become red (h.)
sug V (h. zugus) bring down
sund P2 like, as
sur V be thick
zuur V (p. zuar; n. zuir; h. zuir) precede, guide
iswam the first

Ha* V stink
Harh N, f. (pl. zarhat) injury
Haru V (p. zar; n. zur; h. d'ura) pull, drag
Zaub V answer
Zbib V (h. d'zbek) pull, extract
Zda N, f. (pl. id'da) grandmother
Zha N, m. man's name (used in many folk stories)
Zi V be well, strong, fat, rich
Ziti V cure
Zibana N, m., cell green peas
Zma'u V (p. zma'; n. zma'; h. d'zma') congregate, gather, collect
Znem V (p. znem; n. znem; h. znem) save, rescue
Zr V (p. zr; n. zri; h. d'zar) injure
Zru V (p. zra; n. zri; h. d'zra) take place, happen
Zu B4 never
Zua N, m. hunger
Zuzaad: V prepare

'abr V weigh
'adl V be good
'adli V (h. t'adli) improve
'smak P1 please
'salu V (p. 'ala; n. 'ala; h. t'ala) forgive
'ala P4 why
'alus N, m. (pl. 'alas) calf
(also a'alus)
'alu V (p. 'ala; n. 'ala; h. t'alu) be high, become higher (h.)
am N, m. year
'am N, m. (pl. id'am) my uncle (paternal)
amr V (p. 'amar; n. 'amr; h. 'amar) fill, become full
'amti N, f. (pl. id'amti) my aunt (paternal)
amu V (p. 'amu; n. 'ami; h. t'amu) be blind
'an'a N, m. mint
'ard V (h. 'arad) invite
'alrin Nc twenty
'atar N, m. (pl. 'atarn) medicine man, druggist
'auud V (h. 'auud) repeat, recite
'auun V (h. 'auun) help
'auz V (h. 'auz) be crooked
'azub V (h. 'azab) be pleasant, be wonderful
(with negative: be unhappy, disturbed)