

The Glottal Stop in Harari

Ekaterina Vizirova

Russian State University for the Humanities
vizirova@list.ru

The article deals with the problem of the phonemic status of the glottal stop in Harari (Southern Ethiopian Semitic). Special attention is paid to the opposition between the glottal stop and zero, which is the key aspect of the problem under investigation. The behavior of the glottal stop in various positions in a word is analyzed, minimal pairs illustrating the contrast between ʔ and other consonants (as well as Ø) are presented, and the paradigmatically significant oppositions are investigated.

Keywords: Harari, Ethiosemitic, glottal stop, phonemic status, minimal pairs, opposition to Ø.

The glottal stop, reconstructed as a separate Proto-Semitic phoneme, is well known to be lost in many descendant languages. But even in those languages where it is generally preserved, the glottal stop is often dropped—or rather alternates with Ø—in some positions. To establish the phonemic status of ʔ in such languages requires special investigation.

The present article deals with the problem of the phonemic status of the glottal stop in Harari. The following issues will be touched upon.

- (A) The etymological sources of the glottal stop in Harari.
- (B) The behavior of the glottal stop in various positions in a word.
- (C) The opposition between ʔ and other consonant phonemes and the importance of the opposition ʔ vs. Ø.
- (D) Positions relevant for the opposition ʔ vs. Ø.
- (E) A detailed analysis of morphological positions opposing ʔ to Ø, together with possible examples of concrete minimal pairs.

In the concluding section, arguments pro and contra the phonemic status of the glottal stop in Harari will be summarized.

A. From among the six proto-Semitic gutturals, only two are found in Harari. One is the pharyngeal spirant *h*, going back to Proto-Semitic **h*, **ħ* and **ḥ*. The other is the glottal stop ʔ, originating from *ʔ and *ʔ̣. The glottal stop occurs both in autochthonous Harari words and in Arabic loanwords. Since the Arabic loans in Harari make up about a quarter of



EISENBRAUNS

Offprint from:

L. Kogan, N. Koslova, S. Loesov, and S. Tishchenko eds.,

Babel und Bibel 7: Annual of Ancient Near Eastern,

Old Testament, and Semitic Studies ©

Copyright 2014 Eisenbrauns. All rights reserved.

the whole lexis, there are all reasons to treat the respective lexemes side by side with the inherited Harari words.

The etymological background of ʔ in Harari can be illustrated by the following chart.

	$\text{ʔ}/\emptyset < *r$	$\text{ʔ}/\emptyset < *ʔ$
ʔ in native words, middle and final position	<i>balaʔa</i> ‘to eat’ ¹ < * <i>blʔ</i> , Gez. <i>balʔa</i> <i>samaʔa</i> ‘to hear’ < * <i>šmʔ</i> , Gez. <i>samʔa</i> <i>saʔar/šār</i> ‘grass’ < * <i>šVʔr-</i> , Gez. <i>šāʔr</i> <i>taʔana/ṭāna/ṭēna</i> ‘to load’ < * <i>rʔn</i> , Gez. <i>šaʔana</i> <i>laʔay/lāy</i> ‘above, on’ < * <i>ly</i> , Gez. <i>lāʔla</i> <i>tuluʔ</i> ‘wound’ < * <i>tlʔ</i> , Gez. <i>šalʔ</i> <i>kuruʔ</i> ‘cubit’ < * <i>kurʔ-</i> , Gez. <i>kʔʔrnāʔ</i>	<i>laʔaḥa/lāḥa</i> ‘to send’ < * <i>lʔk</i> , Gez. <i>laʔaka</i> <i>koʔot/kōt</i> ‘two’ < * <i>kilʔ-ā</i> , Gez. <i>kəʔettu</i> <i>nasaʔa</i> ‘to take’ < * <i>nšʔ</i> , Gez. <i>našʔa</i> <i>waṭaʔa</i> ‘to go out’ < * <i>ušʔ</i> , Gez. <i>wašʔa</i>
ʔ in native words, initial position (\emptyset)	<i>āt</i> ‘bone’ < * <i>aṭm-</i> , Gez. <i>ʔaṣm</i> <i>īn</i> ‘eye’ < * <i>ʔayn-</i> , Gez. <i>ʔayn</i> <i>inči</i> ‘wood’ < * <i>ʔiṣ-</i> , Gez. <i>ʔṣ</i> <i>amat</i> ‘year’ < * <i>ʔām-</i> , Gez. <i>ʔāmat</i>	<i>aḥad</i> ‘one’ < * <i>ʔaḥad-</i> , Gez. <i>ʔaḥadu</i> <i>ān</i> ‘I’ < * <i>ʔanV</i> , Gez. <i>ʔana</i> <i>ūn</i> ‘stone’ < * <i>ʔabn-</i> , Gez. <i>ʔabn</i> <i>al-</i> , prefixed morpheme of negation < * <i>ʔal-</i> , Gez. <i>ʔal-</i> <i>iggi</i> ‘hand’ < * <i>yad-</i> , Gez. <i>ʔad</i>
ʔ in Arabic loanwords, various positions	<i>saʔa</i> , <i>-sa</i> ‘time’/‘als, nachdem, wenn’ < <i>sāʔa</i> ‘hour’ <i>ḥadaʔa</i> ‘to abjure, to betray’ < <i>ḥadaʔa</i> <i>sabʔin</i> ‘seventy’ < <i>sabʔin</i> <i>ḡammīʔ</i> ‘all, everything’ < <i>ḡamīʔ</i> <i>maʔna</i> ‘Bedeutung’ (WG 495), <i>maʔanā</i> ‘meaning’ < <i>maʔnā</i> <i>umri</i> ‘age, life’ < <i>ʔumr</i> <i>alāka</i> ‘Beziehung’ (WG 402) < <i>ʔalāqa</i>	<i>suʔāl</i> ‘question’ < <i>suʔāl</i> <i>ḡazāʔ</i> ‘gratitude, compensation’ < <i>ḡazāʔ</i> <i>muʔazzin</i> ‘caller to the prayer’ < <i>muʔaddin</i> <i>imān</i> ‘faith’ < <i>ʔimān</i> <i>imām</i> ‘prayer leader’ < <i>ʔimām</i> <i>ēmara</i> ‘to order, to command’ < <i>ʔamara</i>

¹ Examples without reference are from EDH, which remains the most important lexicographical source for Harari. All other examples are taken from: WG (lexemes and verbal forms, usually in context); the paradigms in LV (verbal forms); the texts in ES (verbal forms in context); and a few articles on Harari grammar (Rose 2004; Wagner 1997). In such cases, the source of the example is always specified. The Roman letter with a figure after the sigla of WG refers to sentences from texts edited in WG (most of these examples also appear in the glossary to that volume); the two figures after the sigla of ES refer to pages and lines respectively. The sign + means that more attestations are known.

B. The stability of the glottal stop in Harari is not the same in various positions. There is a clear distinction between the behavior of the glottal stop in the beginning of a syllable (1) and at the end of a syllable (2).

1. Initial position in the syllable

1.1. The glottal stop never occurs in the beginning of a word ($\#_V : \emptyset$). Leslau's EDH and the glossary of WG have no lexemes beginning with ʔ . Similarly, there are no words or forms with initial ʔ in the available text editions. In the introduction to his dictionary Leslau states: "The glottal stop occurs only medially and finally" (EDH 7). Examples of words with vocalic Anlaut (that is, without ʔ) can be found in the table above as well as in EDH 17-39 and WG 393-415.

1.2. In the middle of a word after a consonant (C_V)

1.2.1. The glottal stop is usually dropped in this position (C_V : \emptyset), both in nouns and in forms of verbs with ʔ as a root consonant:

- kiñat* 'envy' < *kañʔa* 'to be jealous, to envy' (cf. Gez. *kəñʔat*, CDG 433)
malak 'angel' (cf. Gez. *malʔak*, CDG 303)
yinasāl 'he takes' (LV 46, WG 512–513) < **yinasʔāl*, compound imperfect from *nasaʔa* (IIIʔ)
tinasaḥat 'sie betrachtet es' (WG C 27) < **tinasaʔ-a-ḥat*, compound imperfect from *nasaʔa* (IIIʔ) with an object pronoun enclitic 3 sg. m.
yakēb 'may he testify' (LV 44, WG 189) < **yakʔab*, jussive from *kaʔaba/kēba* (IIʔ)
matēmar 'obedience' (EDH 26, LV 41) < **matʔēmar*, infinitive from *ēmara*, a B-type verb Iʔ in the *ta*-stem
yatīgdāl 'he causes to bind' (LV 42) < **yatʔīgdāl*, compound imperfect from *agada* (Iʔ) in the *at*-stem
yinafehel 'es nützt ihm (= Harar, fem.)' (WG B 41) < **yinafʔ-e-ḥel*, compound imperfect from *nafaʔa* (IIIʔ) with an object pronoun enclitic 3 sg. f.
tinafañīnat 'Würde sie mich nützlich sein?' (WG C 24) < **tinafʔ-añ-ī-n-at*, compound imperfect from *nafaʔa* (IIIʔ) with an object pronoun enclitic 1 sg. and the interrogative elements *-ī-n-*

More examples of verbal forms with ʔ dropped can be found in the Appendix 2.

1.2.2. More rarely, free variation between ʔ and \emptyset can be observed (C_V : $\emptyset/\text{ʔ}$). This is the case of a few nominal lexemes as well as forms of verbs I ʔ type A in the *ta*-stem:

falʔāna/falāna ‘spoon’ (both EDH 62)

nafʔi/nafi ‘Nutzen, Vorteil’ (WG A 15/WG E 37)

zarʔi/zar ‘Getreide/seed, descendance’ (WG A 12/EDH 167)

yitʔagadi/yitagadi ‘he is bound’ (LV 41), simple imperfect *ta*-stem from *agada*

matʔagad/matagad ‘to be bound’ (LV 41), infinitive *ta*-stem from *agada*, etc.

In the texts editions one can also find forms of verbs I ʔ in the *ta*- or *at*-stem with assimilation of ʔ to the preceding *-t*: *yittagad-ma* ‘he will be tied and ...’ (ES 179:2), simple imperfect *ta*-stem from *agada*; *mattēman-le* ‘gläubhaft zu machen’ (WG E 32), infinitive *at*-stem from *amana*.

According to the paradigms of LV, the only verb I ʔ which consistently displays the glottal stop in the simple imperfect and jussive after the *ta*-prefix is *ākā* ‘to know’:

yitʔak(i) ‘it is known’ (LV 61), simple imperfect

yatʔak ‘may it be known’ (LV 61), jussive

As for the compound imperfect, in Leslau’s paradigms it is adduced with $\emptyset/\text{ʔ}$ variation (*yitʔakāl/yitāwakāl* ‘it is known,’ LV 61), but the texts editions, as far as one can judge from the glossary of WG (pp. 400–401), do not have any relevant form with ʔ preserved. Rather, geminated *-tt-* and a long vowel are found: *yittāwakāzāl* ‘dass sie einander kennen’ (WG B 15) etc.

More examples of verbal forms I ʔ can be found in Appendix 2 (forms with assimilation are underlined).

1.2.3. The glottal stop after a consonant (C_V : ʔ) is common in Arabic loanwords only:

sabʔin ‘seventy’ < *sabʔin*

ḡumʔa (also *ḡuma*) ‘Friday’ < *ḡumʔa*

masʔūliya ‘Verantwortung’ (WG E 29) < *masʔūliyya*

1.3. In the middle of the word between two identical vowels (V₁_V₁)

1.3.1. The glottal stop in such contexts is often retained, but usually doublet forms are in evidence in which the glottal stop is dropped, with a

concomitant lengthening of the vowel ($V_1\text{-}V_1 : \text{?}/\emptyset$ with \bar{V}).² This free variation is attested for numerous non-verbal lexemes as well as for many forms of verbs III[?] and II[?]:

<i>saʔar/sār</i> ‘grass’	<i>laʔay/lāy</i> ‘above, on’	<i>koʔot/kōt</i> ‘two, both’
<i>baʔara/bāra</i> ‘ox, bull’	<i>saʔa/-sa</i> ‘time’	<i>šīʔišti/šīšti</i> ‘three’
<i>fuʔur/fūr</i> ‘mouse, rat’		
<i>buʔur/būr</i> ‘deep’		
<i>maʔaltu/māltu</i> ‘day (in daytime)’		
<i>moʔot/mōt</i> ‘wicker basket’		
<i>siʔǧa</i> ‘Einteilung’ (WG D 2)/ <i>siǧa</i> ‘part’ (EDH 136/EDH 138)		
<i>waʔala/wāla</i> ‘to spend a day’		
<i>taʔana/tāna/tēna</i> ‘to load’		
<i>hēmaʔa/hēma</i> ‘to calumniate, to slander’		
<i>agabaʔa/agaba</i> ‘zurückbringen’ (WG 441, EDH 67)		
<i>kaʔab/kāb/kēb</i> ‘testify!’ (LV 44), imperative from <i>kaʔaba/kāba/kēba</i>		
<i>yitgōraʔāl/yitgōrāl</i> ‘it is slaughtered’ (LV 47), compound imperfect <i>ta</i> -stem from <i>gōraʔa</i>		
<i>yaʔagdi/yāgdi</i> ‘he binds’ (LV 41), simple imperfect from <i>agada</i> ³		
<i>yissaʔamizāl</i> ‘(Waren), die verkauft werden’ (WG B 28)/ <i>yissāmzāl</i> id. (WG B 28 Komm.); <i>yissaʔamālu</i> ‘(Waren) werden verkauft’ (WG G 12)/ <i>yissāmubohol</i> ‘they are sold in it’ (ES 83:11), various forms of compound imperfect <i>ta</i> -stem from <i>asēma</i> ‘to sell’ (EDH 140, WG 527), <i>tasaʔama</i> ‘verkauft werden’ (WG 522)		
<i>zitfāʔalube</i> ‘that they wished good things through her’ (ES 169:9)/ <i>yitfālubōzal</i> ‘that they wish good things through him’ (ES 169:7), relative perfect and relative compound imperfect from <i>tafāʔala</i> (the forms are taken from neighboring sentences of one text)		

See also the verbal forms in Appendix 2.

1.3.2. There are a few commonly used lexemes (mostly Arabic loan-words) which are always attested with *ʔ* between two identical vowels ($V_1\text{-}V_1 : \text{?}$):

² If the resulting vowel is word-final, the length does not surface, as word-final vowels are usually short in Harari.

³ Note, however, a few forms without vocalic lengthening in the texts editions: *tagdi-ma* ‘she ties and ...’ (ES 186:4), ‘she attaches and ...’ (ES 186:9).

- širi* ‘thing’ (WG B 12 +), *širiw* (WG B 2 +), *širin ta* (WG A 3 +), *širim* (WG C 18 +), *širiyāč-be* (WG F 52)
suʔudin ‘geteilt’ (WG B 13), passive particle from *sēʔada* with the particle *-(i)n*
ḡamāʔa ‘Gemeinschaft, Gruppe’ (WG F 35), *ḡamāʔanat* ‘gemeinsame Nutzung’ (WG C 9)

Further, the glottal stop between two identical vowels is usually retained on morphemic borders, cf. the following nominal and verbal forms with the glottal stop followed by a vowel-initial morpheme:

- usuʔuw* ‘Menschen (acc.)’ (WG B 23 +) < *usuʔ-(u)w*, *gē usuʔu* ‘the Hararis (acc.)’ (ES 28:11) < *usuʔ-u(w)*, *gēy usuʔum* ‘auch die Harariner’ (WG D 26 +) < *usuʔ-um*
muḡtamaʔāč ‘Gesellschaften’ (WG C 16) < *muḡtamaʔ-āč*
ḡuluʔum ‘as to the gourd’ (ES 98:6) < *ḡuluʔ-um*
yubūʔu-ma ‘sie gehen und ...’ (WG D 13) < *yubūʔ-u-ma*
zinasaʔa-ma ‘der übernahm und ...’ (WG D 42) < *zinasaʔ-a-ma*
zōʔaʔalēyu ‘für die entstanden (sg.)’ (WG B 9) < **zi-waʔaʔ-a-l-ayu*

More examples of verbal forms of this kind can be found in Appendix 2.

1.4. In the middle of the word between two different vowels (V₁V₂)

1.4.1. The glottal stop in this position is stable in most cases (V₁V₂ : ʔ), both on the morphemic borders and elsewhere (in particular, before the epenthetic *-i*). This affects both nominal lexemes and verbal forms:

- hirkaʔōt* ‘Thema’ (WG E 1)
suʔāl ‘Frage’ (WG B 2 +)
muʔāmala ‘Umgang’ (WG B 15 +)
tafāʔul ‘omen’ (ES 188:2)
lāʔu ‘time of greatest heat of the day’
ṭabīʔa, *ṭābīʔa* ‘Natur’ (WG 542)
usuʔāč ‘men’ (ES 28:12, WG B 8 +)
išāʔi ‘Abendgebet’ (WG 411, EDH 35)
- bōʔara* ‘to become deep’
yissēʔadu-ma ‘indem sie sich verteilen und ...’ (WG D 14), *zissēʔattīn te* ‘sie ist, die eingeteilt ist’ (WG B 23)
akōʔa ‘to spill, to leak through’ (EDH 90, WG 465)
rasaʔo ‘sie vergessen es’ (WG F 35)

ñēʾa ‘to sleep’ (EDH 120, WG 515), *yaññiʾoḥol* ‘they lay it’ (ES 104:3)
yībūʾal ‘he enters’ (ES 172:1), *yubūʾi-kuta* ‘dass sie kamen’ (WG A 17),
mabōʾa ‘Eingang’ (WG G 9, EDH 39), *bōʾu* ‘share! (pl.)’ (ES 35:10)
riʾa ‘to see,’ *yitrāʾi-kut* ‘dass sie einander treffen’ (WG B 45), *yitriʾālu* ‘sie
werden betrachtet’ (WG C 10), *taraʾeyu gir* ‘if it seems to Him (pl.)’
(ES 106:5), *yitriʾumēl* ‘sie werden nicht gesehen’ (WG E 22)
yitnāsaʾi nār ‘sie pflegten sie zu heiraten’ (WG B 19), *zinasaʾunat-le*
‘dass sie übernommen hätten’ (WG G 34).

See also the verbal forms in Appendix 2.

1.4.2. The omission of *ʾ* in this position (with a concomitant lengthening of the vowel) is very rare; in both examples known to me, a by-form with *ʾ* preserved is attested ($V_1V_2 : ʾ/\emptyset$ with \bar{V}):

maʾet/mēt ‘silver’ (EDH 102/114)
māʾōy/mōy (WG 495, without translation), but *moʾoy/mōy* ‘the spending of
the day, day (24 hours), often’ (EDH 103/116); the form *māʾōy*
seems to be attested only in the expression *māʾōy-be* ‘täglich’ (WG A
8; cf. EDH 116 *mōy-be*, the form *māʾōy* is absent from EDH).

2. Syllable-final position

2.1. Before a consonant (V_C)

2.1.1. In this position the glottal stop is usually preserved (V_C : *ʾ*), both word-medially and before an enclitic beginning with a consonant:

nikiʾti ‘misfortune’ (EDH 118)
raʾdi ‘thunder’ (EDH 132)
maʾna ‘Bedeutung’ (WG B 4 +)
taʾlīm ‘Unterricht’ (WG D 9 +)
wuliʾ-le ‘in the future’ (EDH 159)
wākiʾ-zōw ‘ihre Realität (acc.)’ (WG C 13)
ḵuluʾ-be ‘in a gourd’ (ES 146:5)
gēy usuʾ-wa ‘die Harariner und ...’ (WG B 1 +)
gēy usuʾ-le ‘für den Harariner’ (WG A 3 +)
usuʾ-be ‘von den Leuten’ (WG D 34)
muḡtamaʾ-kut-be ‘als eine Gesellschaft’ (WG C 22)
zisamaʾti-sa ‘when she heard’ (ES 148:3)
yubūʾzālu ‘die kommen’ (WG C 6)

nitnāfaʔbaḥana ‘wir benutzen es’ (WG B 5)
yagbaʔbā-wā ‘may he live in it’ (ES 78:4)
mawṭaʔ-ziña-le ‘for our leaving’ (ES 195:3)
magbaʔ-le ‘to repay’ (ES 189:9)
mansaʔ-le ‘zu heiraten’ (WG C 23)
zaynisaʔnatuw ‘dass er nicht übernimmt (akk.)’ (WG E 26), rel. neg.
 impf. with the suffix *-nat*
titnasaʔ-kuta ‘dass sie genommen wurde’ (WG B 12)
almatnāsaʔ-zo ‘dass sie sich nicht verheirateten’ (WG C 16)
matmālaʔ-le ‘um (einen Wunsch) zu erfüllen’ (WG A 11), infinitive
at-stem
allaw almarsaʔ-zo ‘that he has not forgotten Allah (lit. “Allah—his
 not forgetting”)’ (ES 143:10)

See also examples in Appendix 2.

2.1.2. The glottal stop is sporadically assimilated to the following consonant,⁴ but as a rule doublet forms with ʔ are possible in such cases (V_C : ʔ/∅ with CC). Assimilation of ʔ is more typical for the verbal forms (verbs IIʔ and IIIʔ), although a few rare examples of non-verbal lexemes are also known:

rāʔta/rāṭta ‘the fourth day from today’ (EDH 135)
mēʔwa/mēwwa ‘oder’ (WG E 15/WG D 11 and F 42)
yibūʔlāmēl ‘he does not understand it’ (ES 172:11)/*yubūllāḥal* ‘he understands it’ (ES 63:9), lit. “it does not enter him (-l-a-)”/“it enters him”
yitnāsaʔ-le/yitnāsalle ‘heiraten (können)’ (WG B 19 Komm.)
yitnāsaʔ nar/yitnāsannāra ‘sie pflegten zu heiraten’ (WG B 19 Komm.)
nisīddahana ‘wir teilen sie ein’ (WG B 21), *yisīddāl* ‘he distributes’ (LV 44)/*yisīʔdāl* ‘he distributes’ (LV 44)
sēddi/sēʔdi ‘distribute!’ (LV 44)
balasši/balaʔši ‘you (fem.) ate,’ *balanna/balaʔna* ‘we ate’ (LV 46)
ritti/riʔti ‘she saw,’ *riḥḥi/riʔḥi* ‘you (masc.) saw’ (LV 67)

In the Appendix 2 forms with assimilation are underlined.

⁴ Examples of assimilation of the glottal stop to the preceding consonant see in 1.2.2.

2.1.3. Examples of free variation $\text{ʔ}/\emptyset$ (sometimes with lengthening of the preceding vowel) are rare (V_C : $\text{ʔ}/\emptyset$ with sporadic \bar{V}):

aḥḥaʔ-zōm ‘auch heute noch’ (WG B 27)/*aḥḥām* ‘heute’ (WG B 31 +)
taʔrīḥ ‘calendar’ (EDH 148)/*tārīḥ* (WG B 8, B 12, B 41+) ‘Geschichte,’ *tarīḥ* ‘calendar’ (EDH 150)
maʔtāra dukkān ‘grocery store’ (EDH 102)/*maṭāra dukkān* ‘grocery store’ (EDH 115)
duʔwā ‘blessing’ (ES 61:3)/*duwā*, *duwāʔ* ‘blessing’ (EDH 60), *duwā* ‘blessing’ (ES 61:13), *duwāʔ* ‘benediction’ (ES 166:13 and ES 100:6)

2.2. Word-final position (V_#)

2.2.1. The glottal stop is usually stable word-finally (V_# : ʔ):

usuʔ ‘people’ (ES 62:1 +)
ḵiniʔ ‘half’
ḵarfaʔ ‘cinnamon’
madāfaʔ ‘cannon’
saḡḡāʔ, *šaḡḡāʔ* ‘brave’ (EDH 138, 145)
nukuʔ ‘mad’
ḵuluʔ ‘bowl’
tuluʔ ‘worm’
rubuʔ ‘quart’
ḡammiʔ ‘Gesamtheit’ (WG C 24)
mašrūʔ ‘Projekt’ (WG D 45)
mawdūʔ ‘Thema’ (WG D 56)
ḥataʔ ‘Fehler’ (WG G 2)
muḡtamaʔ ‘Gesellschaft’ (WG C 18 +)
tataʔ albāyti-zo ‘nicht wagen’ (WG C 23), *tataʔ bāyti-zo-baḥ* ‘da sie Eifer zeigten’ (WG D 33)
aḥḥaʔ in *aḥḥaʔ wakti* ‘die heutige Zeit’ (WG C 3 +), *ila ḥḥaʔ* ‘bis jetzt’ (WG B 35 and B 48), cf. *aḥḥām* in 2.1.3.
yablaʔ ‘may he eat’ (LV 47)
zaytibalaʔ ‘that is not eatable’ (ES 106:7)
yītibālāʔ ‘(wie) sich (die Kleider) voll (Seifen-wasser) saugen (sg.)’ (WG 311 = WG 419)
mablaʔ ‘food’ (WG B 28 +)
mawṭaʔ ‘exit’ (ES 3:4)

zaywītaʔ ‘that does not come out’ (EDH 162)

matnāsaʔ ‘zu verheiraten’ (WG C 11 +)

mulluʔ waḳṭīm ‘ganzzeitig’ (WG D 19)

Further examples of verbal forms can be found in Appendix 2.

2.2.2. Examples of word-final free variation between ʔ and Ø are rare and usually not quite transparent (V_# : ʔ/Ø):

yaʔ ‘that’ (EDH 163, Wagner 1997:491)/*ya* (WG 557) in *ya baḥarē-zo* ‘after that’ (ES 36:5); the form without glottal stop seems to be possible only when *ya-* is used as a proclitic (that is, not word-finally in the strict sense)

maḳraʔ ‘reading sections = Koranabschnitt’ (ES 209:2 = WG 500)/*maḳra* ‘a few paragraphs of the Koran’ (EDH 110); cf. the infinitive *maḳraʔ* ‘(die angefangen haben, den Koran) zu lesen’ (WG D 10), cf. below in section E under 1.

Cf. also the pairs of infinitives of *ta-* and *at-* stems from the verbs IIIʔ of the rare types B and D (*mathēmaʔ* ‘to be calumniated,’ LV 47/*mathēma* ‘to cause to calumniate,’ LV 48; *matgōraʔ* ‘to be slaughtered,’ LV 47/*matgōra* ‘to cause to slaughter,’ LV 48) and the verbal nouns from the verb *gōraʔa* ‘to slaughter’ (the noun of place *magōraʔ/agōraʔa* ‘place where one slaughters, slaughter house,’ EDH 74/the infinitive *magōra*, LV 46). For the possibility of interpreting such forms as minimal pairs see section E under 4.

The following chart illustrates the **behavior of the glottal stop in various positions**.

Word-initially (always before a vowel) #_V	Word-medially				Word-finally (syllable-finally) V_#
	before a vowel			before a consonant (syllable-finally) V_C	
	after a consonant C_V	between two identical vowels V ₁ _V ₁	between two different vowels V ₁ _V ₂		
Ø	Ø Øʔ (CC) rarely ʔ	ʔ/Ø (V̄) ʔ	? rarely ʔ/Ø (V̄)	? ʔ/Ø (CC) rarely ʔ/Ø (V̄)	? rarely ʔ/Ø

It is easy to observe that the glottal stop in Harari can alternate with Ø in all positions, which makes one wonder about the phonemic status of this phone.

C. A. Reformatskij's primer in linguistic theory states: "Прежде всего каждая фонема противопоставлена нулю, то есть отсутствию данной фонемы, ср. такие пары слов, где различение достигается именно этим способом: *скот* — *кот*, *волк* — *вол* ... *убор* — *бор*, *стула* — *стул*, *дара* — *дар*, *пара* — *пар*"⁵ (Reformatskij 1967:211).

This straightforward observation acquires a special meaning when one tries to determine the status of unstable phonemes—those which, like the glottal stop in Harari, more or less regularly alternate with Ø. In the Semitic domain, a prime example is the status of the *šwa* vowel in Biblical Hebrew, and it is not surprising that J. Cantineau's remarks on this issue are quite similar to Reformatskij's even in their wording: "Ce qui importe pour le phonologue, ce n'est pas de démontrer que le *šwa* mobile s'oppose aux autres voyelles comme le fait Z. S. Harris, car l'absence de voyelle s'opposerait aussi bien aux voyelles existantes, mais au contraire de prouver que le *šwa* mobile s'oppose à l'absence de voyelle, seul moyen de prouver son existence phonologique" (Cantineau 1950:115).

The existence of minimal pairs in which the glottal stop is opposed to other consonants makes it clear that ʔ is not an allophone of any of these phonemes. The following minimal pairs illustrate the opposition of the glottal stop to the majority of the consonantal phonemes of Harari (*b, ʕ, d, f, h, ħ, k, l, n, r, s, š, t, y*):

- ʔuluʔ* 'wound' vs. *ʔuluk* 'mad'
nikaʔ 'touch!' (Rose 2004:47) vs. *nikah* 'marriage contract'
usuʔ 'man' vs. *usuħ* 'thorn'
mēʔ 'no!' (EDH 102) vs. *mēt* 'silver' (EDH 114) alongside with *maʔet* 'silver' (EDH 102)
āraʔa 'to show' (EDH 132) vs. *ārada* 'to deposit, to place, to put down' (EDH 31)
dagaʔ 'mistake' (EDH 54) vs. *dagad* 'humidity of the wall' (EDH 54) vs. *dagan āša* 'to review a lesson' (EDH 55)
ʔābiʔa 'Natur, Eigenart' (WG 542) vs. *ʔābiya* 'station' (EDH 152)
nafʔi 'Nutzen, Vorteil' (WG 510) vs. *nafsi* 'soul' (EDH 118)
malaʔa 'to fill' vs. *malaħa* 'to choose'

⁵ "Each phoneme is first of all opposed to zero, i. e. to the absence of this phoneme, cf. the pairs of words where the difference is achieved exactly in this way: *skot* 'cattle' — *kot* 'male cat,' *volk* 'wolf' — *vol* 'ox' ... *ubor* 'attire, dress' — *bor* 'pine forest,' *stula* 'chair (genitive)' — *stul* 'chair (nominative),' *dara* 'gift, donation (genitive)' — *dar* 'gift, donation (nominative),' *para* 'steam, vapor (genitive)' or 'pair (nominative)' — *par* 'steam, vapor (nominative)' or 'pairs (genitive plural).'"

nafaʔa ‘to serve’ vs. *nafaḥa* ‘to inflate, to blow’
balaʔa ‘to eat’ vs. *balaha* ‘to be sharp’ vs. *balata* ‘to cheat’
abalaʔa ‘to feed’ vs. *abalaha* ‘to sharpen the edge’ vs. *abalala* ‘to
 spoil, to waste’
ṭalaʔa ‘to hate, to dislike’ vs. *ṭalafa* ‘to snatch away, to rob’
tanāsaʔa ‘sich verheiraten’ (WG 513) vs. *tanāsaba* ‘to get along to-
 gether, to harmonize’ (EDH 119)
gōfaʔa ‘to push’ (EDH 69) vs. *gōfala* ‘to be lean, meager’ (EDH 69)
ḵaraʔa ‘to read, to recite’ vs. *ḵaraba* ‘to be presented’ vs. *ḵaraša* ‘to vomit’
agabaʔa ‘to bring (the bride) into the (bridal) house’ (EDH 67) vs.
agabara ‘to tame’ (EDH 67)
saʔa ‘hour; when’ vs. *sača* ‘to drink’ vs. *safa* ‘to sew’ vs. *sača* ‘to give’

However, these examples provide no decisive argument in favor of the phonemic status of the glottal stop in Harari as long as the existence of by-forms with Ø can be surmised. And indeed, for at least one ʔ-lexeme from the above list such a doublet form is actually attested: *nafʔi/nafi* ‘profit.’ The opposition *nafʔi* ‘profit’ vs. *nafsi* ‘soul’ can thus be rewritten as *nafi* vs. *nafsi*, where *s* is opposed to zero and not to the glottal stop. Further possible examples of this kind include *yaʔ/ya* ‘that’ (EDH 163/WG 557) vs. *yah* ‘take! here!’ (EDH 163) or *zarʔi/zar* ‘seed’ (WG A 12/EDH 167) vs. *zarfi* ‘envelope for letter’ (EDH 167).

Clearly enough, if one wishes to argue for the phonemic status of the glottal stop in Harari, one has to demonstrate its opposition to Ø.

D. As shown above, there is hardly any position which would be totally immune to the allophonic variation between ʔ and Ø. At the same time, the frequency of this variation is certainly uneven. Let us try to define a few positions where the variation is minimal or practically unattested.

1. The word-initial position (where the glottal stop does not occur) and the post-consonantal position (where ʔ is very often dropped) are unsuitable for the purpose of the present inquiry.

2. Intervocally, the glottal stop is usually retained, but from the phonological point of view this position cannot be considered relevant either: the glottal stop between two vowels in Harari cannot be opposed to Ø. The presence of ʔ in this position can be described as an automatic rule similar to what has been formulated for Amharic by B. Podolsky (1991:27):

$$\emptyset \rightarrow ʔ / \left\{ \begin{array}{c} \# \\ V \end{array} \right\} _- V$$

According to Podolsky, the glottal stop in Amharic has no phonemic status because its use is restricted by the word-initial and intervocalic positions, where its presence is obligatory.

In Harari, two vowels on a morpheme boundary are usually contracted, but quite often the hiatus is eliminated through the insertion of *y*:

bariyāč ‘gates’ (ES 3:5) < *bari* + *-āč*

ħaršiyāč (WG A 13), beside *ħaršāč* (WG A 12) ‘Gärten’ < *ħarši* + *-āč*

ikspartiyāč ‘Experten’ (WG D 44) < *iksparti* + *-āč*

naggādeyāč (WG A 14 Komm.), beside *nagādāč* (WG A 14) ‘Kaufleute’ < *nag(g)āde* + *-āč*

zimaħatōyāč ‘diejenigen, die ihn schlugen’ (WG 175) < *zimaħato* + *-āč*

zimaħatēyāč ‘diejenigen, die sie (sg. f.) schlugen’ (WG 175) < *zimaħate* + *-āč*⁶

Occasionally, the glottal stop can be found in the same position. This can happen when the 1 sg. possessive pronominal enclitic is attached to words ending in a vowel. There are several such forms in the texts recorded by E. Wagner, a few other have been collected by him in the commentary (note the variant forms in three last examples):

tağribaʔēw ‘meine Erfahrung (acc.)’ (WG D 5 = WG C 24 Komm.)

ħēganeʔe ‘mein Stellvertreter’ (WG E 26)

bāytiʔēn ta ‘ich meine’ (WG E 9)

karabuʔe ‘meine Trommel’ (WG C 24 Komm.)

gumčīʔe/gumče ‘meine Backe’ (WG C 24 Komm.)

bādeʔe/bāde ‘mein Land’ (WG C 24 Komm.)

gēyʔe/gēye ‘meine Stadt’ (WG C 24 Komm.)

Wagner seems to consider this *ʔ* (not unlike *y*) as part of the 1 sg. possessive enclitic, which, in his view, has the forms *-e*, *-ʔe*, *-eye* (Wagner 1997: 489); therefore, in his commentary to C 24 (WG 64) he observes that Cerulli’s description of this enclitic (Cerulli 1936:82, § 18: *-ye*, *-iye*, *-ē*) is incomplete. In my opinion, the glottal stop—as also the *y*—in these forms is to be considered, at least originally, a non-etymological insertion breaking the hiatus. This epenthetic interpretation is supported, on one hand, by the relatively common use of *y* to eliminate the hiatus in other contexts

⁶ Compare also the forms of the vocative suffix given by Leslau as *-ow/-ew*, but after a vowel as *-yow/-yew* (EDH 37), e. g. *illiyē* ‘purified honey oh!’ (ES 140:9) < *illi* + *-e(w)*, *ħamariyē* ‘o my dove’ (ES 158:11) < *ħamari* + *-e(w)*.

(see examples above), and, on the other hand, by forms where ʔ and y appear in free variation, such as:

gār abbāyyōʔe ‘meine Frau’ (WG C 24)/*abbāyyoye* ‘my wife’ (EDH 18)
 < *abbāyyo* + *-e*

One may conclude that, since the hiatus is not permitted in Harari and, consequently, the glottal stop between two vowels is not opposed to Ø, this position is deemed to be irrelevant for the problem of the phonemic status of ʔ.

3. The preconsonantal and word-final positions—that is, those where the glottal stop appears syllable-finally—are of key relevance for the problem under scrutiny: it is in this position that ʔ is generally stable and variation with Ø is only seldom met with.

E. To find minimal pairs illustrating the opposition ʔ ~ Ø, one has to look for verbal forms with and without ʔ. As one can deduce from the evidence collected in Appendix 2, syllable-final glottal stop in forms of verbs IIʔ and IIIʔ is preserved with a high degree of regularity.

Some of such forms can be systematically confronted with those with a stable vocalic Auslaut. For example, the infinitives of the basic stem of verbs IIIʔ type A (LV 46) contrast with the infinitives of biradical verbs of the class *baka* (LV 57):

	Triradical	IIIʔ	Biradical
Perfect	<i>sabara</i>	<i>nasaʔa</i>	<i>baka</i>
Simple imperfect	<i>yisabri</i>	<i>yinas(i)</i>	<i>yibak(i)</i>
Compound imperfect	<i>yisarbāl</i>	<i>yinasāl</i>	<i>yibakāl</i>
Jussive	<i>yasbar</i>	<i>yansaʔ</i>	<i>yabki</i>
Imperative	<i>sibar</i>	<i>nisaʔ</i>	<i>bik</i>
Infinitive	<i>masbar</i>	<i>mansaʔ</i>	<i>mabka</i>

In the Appendix 1, more forms of verbs IIʔ and IIIʔ with glottal stop preserved are collected in the left part of the table. The right part displays the corresponding forms of biradical verbs or verbs IIʔ and IIIʔ without glottal stop. Forms in small size are irrelevant for the discussion as they do not participate in paradigmatic oppositions involving ʔ vs. Ø.

It is now appropriate to discuss in greater detail the paradigmatically significant oppositions pointing to the phonemic status of the glottal stop.

1. The opposition ʔ vs. \emptyset is typical of the **infinitives** of verbs III ʔ on the one hand and biradical verbs on the other:

- mablaʔ* ‘food’ (EDH 41) < *balaʔa* (III ʔ type A) vs. *masča* ‘beverage’ (EDH 137) < *sača* (class *baka* type A)
mansaʔ-le ‘zu heiraten’ (WG C 23) < *nasaʔa* (III ʔ type A) vs. *masfa* ‘Kleiderschneiderei’ (WG B 29) < *safa* (class *baka* type A)
maḵābaʔ ‘to anoint’ (LV 46) < *ḵābaʔa* (III ʔ type C) vs. *mamāša* ‘to sweep, to rub’ (LV 57) < *māša* (class *baka* type C)
matgōraʔ ‘to be slaughtered’ (LV 47) < *tagōraʔa* (III ʔ type D *ta*-stem) vs. *matḵōčaʔ* ‘to be cut’ (LV 58) < *taḵōča* (class *baka* type C *ta*-stem) etc.

Quite obvious on the morphological (paradigmatic) level, this opposition is rather hard to demonstrate lexically, as true minimal pairs involving this opposition are very difficult to find. A systematic inquiry into the lexemes representing the verbs III ʔ and biradical verbs in EDH and the glossary of WG has yielded only two pairs of roots with the same two first radicals whose infinitives may be considered true **minimal pairs** illustrating the contrast ʔ vs. \emptyset .

- a) *tafaʔa* ‘to be extinguished (fire), to be spoiled morally’ (EDH 152), ‘jdm. schädlich sein’ (WG 543) vs. *tafa* ‘to be satiated, to be satisfied, to be arrogant’ (EDH 152), ‘mit etw. zufrieden sein, sich mit etw. begnügen’ (WG 543):
 **matfaʔ* vs. **matfa* (no text examples could have been spotted for any of the two forms)
- b) *ḵaraʔa* ‘to read, to recite’ (EDH 128), ‘etw. lesen, rezitieren’ (WG 481) vs. *ḵara* ‘to stay away, to remain behind, to be absent, to remain’ (EDH 128), ‘jdm. bleiben’ (WG 479):
maḵraʔ ‘zu lesen’ (WG D 10: *ḵurān maḵraʔ zēgalāč yinabrālu* ‘Es gibt solche, die angefangen haben, den Koran zu lesen’)⁷ vs. **maḵra* (texts attestations not found)

2. The presence of ʔ distinguishes the **imperfect** forms of the verb *sēʔada* ‘to distribute, to divide’ (EDH 136), ‘etw. verteilen an, etw. anteilen’ (WG 521)—according to LV 44, the only verb II ʔ of type B—in the

⁷ Note the noun *maḵraʔ* ‘Koranabschnitt’ (WG 500; the only attestation adduced in WG is ES 209:2, translated by Leslau as ‘reading sections’), which finds a variant without ʔ in *maḵra* ‘a few paragraphs of the Koran’ (EDH 110; considered an Arabic loanword by Leslau). Cf. above in section B under 2.2.2.

basic stem and the *at*-stem from the **imperfect** forms of biradical verbs, verbs III[?] and verbs II[?] type A:

yisīʔdāl (besides *yisiddāl*) ‘he distributes’ (LV 44) vs. *yimīčāl* ‘he washes (cloth)’ (LV 57) < *mēča* (class *baka* type B), *yihīmāl* ‘he calumniates’ (LV 46) < *hēmaʔa/hēma* (III[?] type B), *yikībāl* ‘he testifies’ (LV 44) < *kaʔaba/kēba/kāba* (II[?] type A)
yassīʔdāl (besides *yassiddāl*) ‘he lets distribute’ (LV 45), *at*-stem vs. *yatkīrāl* ‘he keeps back’ (LV 58, EDH 128) < *atkēra* (class *baka* type A *at*-stem) etc.

It is noteworthy that the glottal stop in the imperfect forms of *sēʔada* can be assimilated to the following consonant. Forms with gemination are apparently more frequent in the modern language, cf. the examples in WG 521 where not a single form with ʔ preserved is listed (see Appendix 2).

No minimal pairs illustrating the opposition ʔ vs. Ø in this morphological context could be found.

3. The contrast ʔ vs. Ø is the key feature of the structural opposition between the **imperative** forms (sg. m.) of verbs III[?] of all types (A, B, C, D) in *ta*-stem, on one hand, and **perfect** forms (3 sg. m.) of biradical verbs in *ta*-stem or perfect forms of verbs II[?], on the other hand:

tanasaʔ ‘be taken!’ (LV 47) < *tanasaʔa* (III[?] type A *ta*-stem) vs. *tagaʔna* ‘it is thrown away’ (LV 55), class *baka* type A *ta*-stem
tahēmaʔ ‘be calumniated!’ (LV 47) < *tahēmaʔa* (III[?] type B *ta*-stem) vs. *takēba* ‘it is testified’ (LV 44), verb II[?] type A *ta*-stem;⁸ *tamēča* ‘(cloth) is washed’ (LV 58), class *baka* type B *ta*-stem; *tahēgā* ‘it is trampled’ (LV 64), class *lēta* *ta*-stem
takābaʔ ‘be anointed!’ (LV 47) < *takābaʔa* (III[?] type C *ta*-stem) vs. *takāba* ‘it is testified’ (LV 44),⁹ verb II[?] type A *ta*-stem; *tafāča* ‘it is sought’ (LV 58), class *baka* type C *ta*-stem
tagōraʔ ‘be slaughtered!’ (LV 47) < *tagōraʔa* (III[?] type D *ta*-stem) vs. *takōča* ‘it is cut’ (LV 58), class *baka* type D *ta*-stem; *tašōma* ‘it is appointed’ (LV 62), class *mōta* *ta*-stem

⁸ Cf. *zittēnaw* ‘that was loaded (acc.)’ (ES 206:1), from *taʔana/ṭēna/ṭāna* (EDH 151, LV 43).

⁹ Cf., for instance, *laʔaḥa/lāḥa* ‘to sent,’ which, according to Leslau (LV 43), has no forms with *ē* (like **lēḥa*).

In spite of the relatively high prominence of these morphological environments, no minimal pairs illustrating the opposition ʔ vs. \emptyset could be found.

4. According to the paradigms of LV, the presence of the glottal stop opposes the **infinitives of *ta*-stem** from the verbs III ʔ of the rare types B (*hēmaʔa*) and D (*gōraʔa*) to the **infinitives of *at*-stem** from the verbs of the same types. In particular, the *ta*- and *at*-infinitives of the same verbs can be opposed:

mathēmaʔ ‘to be calumniated’ (LV 47) < *taḥēmaʔa* (III ʔ type B *ta*-stem) vs. *mathēma* ‘to cause to calumniate’ (LV 48) < *athēmaʔa* (III ʔ type B *at*-stem)

matgōraʔ ‘to be slaughtered’ (LV 47) < *tagōraʔa* (III ʔ type D *ta*-stem) vs. *matgōra* ‘to cause to slaughter’ (LV 48) < *atgōraʔa* (III ʔ type D *at*-stem)

However, according to the same paradigms of LV, in the much more common type C the glottal stop is retained in both *ta*- and *at*-infinitives: *matḵābaʔ* ‘to be anointed’ (LV 47) = *matḵābaʔ* ‘to cause to anoint’ (LV 48).¹⁰ In view of this, one can seriously doubt that the infinitives *mathēmaʔ* ‘to be calumniated’ and *mathēma* ‘to cause to calumniate’ are opposed to each other by the presence of the glottal stop. Such pairs, known to me only from Leslau’s paradigms, are not to be regarded as relevant for the opposition ʔ vs. \emptyset without a further special study.

Further study is also needed to establish whether the presence of the glottal stop marks the difference between **two nouns** from the verb III ʔ *gōraʔa* (cf. also section B under 2.2.2.):

magōraʔ (alongside with *agōraʔ*) ‘place where one slaughters, slaughter house’ (EDH 74) and *magōra* ‘to slaughter’ (LV 46), infinitive

One may conclude that, in spite of the fact that the contrast ʔ vs. \emptyset undoubtedly participates in the **morphological** (paradigmatic) opposition of the forms of triradical verbs with the glottal stop as a root consonant on the one hand and the forms of biradical verbs with no ʔ in the root on the other, the number of **true minimal pairs** is insignificant.

¹⁰ In the most frequently used type A, *at*-forms are produced from the type B stem (LV 33): perf. *atnēsaʔa*, infinitive *matnēsaʔ*, from *nasaʔa* ‘to take’ (LV 48). The *ta*-infinitives of type A are formed from the type A stem: *matnasaʔ* (LV 47).

Outside the verbal system, I managed to find the following **minimal pairs** illustrating the opposition ʔ vs \emptyset :

taraʔ ‘be seen!’ (LV 67), imperative of the verb *riʔa* ‘to see’ in the *ta*-stem vs. *tara* ‘area, section’ (EDH 150)

sañiʔ/šañiʔ ‘ironsmith, potter’ (EDH 141/EDH 146) vs. *sañi* ‘seed’ (EDH 141)

rāʔta/rātta ‘the fourth day from today’ (EDH 135) vs. *rāta* ‘remains of food between the teeth’ (EDH 135)

It is remarkable that the last two words with ʔ display by-forms for which the opposition under investigation would not be operative.

Conclusions

The arguments **for** the phonological status of the glottal stop in Harari are as follows:

- 1) the high degree of stability of syllable-final ʔ
- 2) the existence of minimal pairs, whose limited number is perhaps to be explained by the relatively small volume of the available materials (it is not unlikely that their number would increase considerably in the course of further study with the help of native speakers)
- 3) paradigmatic oppositions of forms from triradical verbs with ʔ in the root and biradical verbs of various classes; this morphological contrast has to be considered one of the factors blocking the complete disappearance of the glottal stop from the phonological system of Harari

The following are the arguments **against** considering the glottal stop as a fully-fledged phoneme in Harari:

- 1) the widely attested free variation between ʔ and \emptyset in all positions
- 2) the use of the glottal stop to eliminate the hiatus
- 3) the absence of sufficiently numerous and reliable minimal pairs involving ʔ

There is no doubt that the phonemic status of the glottal stop in Harari is seriously weakened. However, its situation is much more stable than in the remaining languages of the Southern Ethiopian branch. This is at least partly due to the constant infiltration and adaptation of large

amounts of Arabic loanwords as a result of the constant interaction between the Harari speakers and the Arab world.

Abbreviations of sources

- ES W. Leslau. *Ethiopians Speak: Studies in Cultural Background*. I. Harari. Berkley–Los Angeles, 1965.
- LV W. Leslau. *The Verb in Harari (South Ethiopic)*. Berkeley–Los Angeles, 1958.
- WG A. Garad, E. Wagner. *Harari-Studien. Texte mit Übersetzung, grammatischen Skizzen und Glossar*. Wiesbaden, 1998 (glossary: pp. 391–563).

References

- Cantineau 1950 Cantineau, J. Essai d'une phonologie de l'hébreu biblique. *Bulletin de la Société de Linguistique de Paris* 46:82–122.
- Cerulli 1936 Cerulli, E. *Studi Etiopici*. 1. *La lingua e la storia di Harar*. Roma.
- Podolsky 1991 Podolsky, B. *Historical Phonetics of Amharic*. Tel-Aviv.
- Reformatskij 1967 Reformatskij, A. *Vvedenije v jazykovedenije*. Moscow.
- Rose 2004 Rose, Sh. Long-Distance Vowel-Consonant Agreement in Harari. *JALL* 25:41–87.
- Wagner 1997 Wagner, E. Harari. Hetzron, R. (ed.). *The Semitic Languages*. London–New York. Pp. 486–508.

Appendix 1. The correspondences between forms from verbs with *ʔ* in the root and forms from biradical verbs and verbs II^ʔ and III^ʔ without *ʔ*

Morpho-logical form	Class, type and stem of a verb with <i>ʔ</i> in the root	Examples of forms with <i>ʔ</i> (with possible doublet forms without <i>ʔ</i>)	Examples of the corresponding form without <i>ʔ</i>	Class, type and stem of a verb without <i>ʔ</i>
infinitive	III ^ʔ A basic	<i>mamsaʔ-le</i> 'zu heiraten' (WG C 23) <i>mablaʔ-wa masča</i> 'Lebensmittel' (WG B 28, WG G 12, WG G 25), <i>mablaʔ</i> 'food' (EDH 41)	<i>magña</i> 'to throw' (ES 125:9) <i>masfa</i> 'Schneiderei' (WG B 29) <i>masča</i> 'beverage' (EDH 137)	<i>baka</i> A basic
	III ^ʔ A <i>a-</i>	<i>magbaʔ-le</i> 'to return/to repay' (ES 189, 5 and 9)	<i>maŋfa</i> 'to make satiated' (LV 58)	<i>baka</i> A <i>a-</i>
	III ^ʔ C basic	<i>maḳabaʔ</i> 'to anoint' (LV 46)	<i>maḥna</i> 'to be' (LV 59)	<i>ḥāna</i> basic
	III ^ʔ A <i>la-</i>	<i>matmasaʔ</i> 'to be taken' (LV 47)	<i>mamaša</i> 'to rub' (LV 57)	<i>baka</i> C basic
	III ^ʔ B <i>la-</i>	<i>malḥemaʔ</i> 'to be calumniated' (LV 47)	<i>manāga</i> 'to succeed' (LV 58) ¹¹	<i>baka</i> C <i>a-</i>
	III ^ʔ A <i>al-</i>	<i>matnəsaʔ</i> 'to cause to take' (LV 48)	— ¹²	—
			<i>mathəma</i> 'to cause to calumniate' (LV 47)	III ^ʔ B <i>al-</i>
			<i>mathəka</i> 'to cause to chew' (LV 64)	<i>ləta al-</i>
			<i>mathəra</i> 'leaving out' (ES 151, 11) ¹³	<i>baka</i> A <i>al-</i>
			<i>mathəga</i> 'to cause to observe' (LV 58)	<i>baka</i> B <i>al-</i>
		<i>mathəba</i> 'to be testified' (LV 45) and 'to cause to testify' (LV 45)	II ^ʔ A <i>ta-</i> and <i>al-</i>	

¹¹ The translation according to EDH 105 and WG 497.

¹² No infinitive forms of *baka ta-*stem in LV 58.

Morpho-logical form	Class, type and stem of a verb with ? in the root	Examples of forms with ? (with possible doublet forms without ?)	Examples of the corresponding form without ?	Class, type and stem of a verb without ?
	III ^p C <i>ta-</i>	<i>matnāsa^o</i> 'sich ... zu heirateten' (WG C 11), 'marriage' (EDH 119); <i>matnāsa^o-be</i> 'weil sie (einander) heirateten' (WG B 15); <i>almatnāsa^o-zo</i> '(dadurch, dass sie sich) nicht ... verheirateten' (WG C 16)	<i>massāta-be</i> 'by being given to one another' (ES 123:13)	<i>baka</i> C <i>ta-</i>
	III ^p C <i>al-</i>	<i>matmāla^o</i> 'um sich zu erfüllen' (WG A 11)	<i>matlāya</i> 'to cause to separate' (LV 58)	<i>baka</i> C <i>al-</i>
	III ^p D <i>ta-</i>	<i>magōra^o</i> 'to be slaughtered' (LV 47)	<i>matgōra</i> 'to cause to slaughter' (LV 48) <i>mathōča</i> 'Abgeschlachtenwerden' (WG C 26) and 'to cause to slaughter' (LV 58) <i>matmōta</i> 'to cause to die' (LV 62)	III ^p D <i>al-</i> <i>baka</i> D <i>ta-</i> and <i>al-</i> <i>mōta</i> <i>al-</i>
jussive	III ^p A basic	<i>yansa^o</i> 'may he take!' (LV 46) <i>zaynisa^onataw</i> 'dass (die Stellung nur Leute) übernehmen' (WG E 26) <i>yagbar^{ba}</i> 'may he live in it!' (ES 78:4) <i>yarga^o</i> 'may he causes to coagulate!' (LV 47)	<i>yabki</i> 'may he cry!' (LV 57)	<i>baka</i> A basic
	III ^p A <i>a-</i>	<i>yatmasa^o</i> 'may he be taken!' (LV 47) <i>zayhibala^o</i> 'that is not eatable' (ES 106:7)	<i>yafji</i> 'may he cause to be satiated!' (LV 58) <i>yafgañ</i> 'may it be thrown away!' (LV 58)	<i>baka</i> A <i>a-</i> <i>baka</i> A <i>ta-</i>

¹³ The form *mathēr* without the final *-a* in LV (LV 58) must be a mistake, cf. also *mathēra-zo* 'its abolishing' (ES 150, 1).

Morpho-logical form	Class, type and stem of a verb with ? in the root	Examples of forms with ? (with possible doublet forms without ?)	Examples of the corresponding form without ?	Class, type and stem of a verb without ?
imperative	II ^p B basic	<i>yasēdi</i> (beside <i>yasēddi</i>) 'may he distribute!' (LV 44)	<i>yamēč</i> 'may he wash!' (LV 57) <i>yalel</i> 'may he leave!' (LV 64) <i>yakēb</i> 'may he testify!' (LV 44) <i>yahēm</i> 'may he calumniate!' (LV 46) <i>yasēm</i> 'may he sell!' (LV 64)	<i>baka</i> B basic <i>lēta</i> basic
	II ^p B <i>al-</i>	<i>yasēddi</i> (beside <i>yasēddi</i>) 'may he causes to distribute!' (LV 45)	<i>yahak</i> 'may he cause to chew!' (LV 64) <i>yakēb</i> 'may he cause to testify!' (LV 45)	<i>lēta al-</i> II ^p A <i>al-</i>
	III ^p B <i>ta-</i>	<i>yathēma^o</i> (beside <i>yathēm</i>) 'may he be calumniated!' (LV 47)	<i>yamēč</i> 'may it be washed!' (LV 58) <i>yahēg</i> 'may it be trampled!' (LV 64) <i>yakēb</i> 'may it be testified!' (LV 45)	<i>baka</i> B <i>ta-</i> <i>lēta ta-</i> II ^p A <i>ta-</i>
	III ^p C <i>ta-</i>	<i>yakāba^o</i> (beside <i>yakāb</i>) 'may he be anointed!' (LV 47)	<i>yafīč</i> 'may it be sought!' (LV 58)	<i>baka</i> C <i>ta-</i>
	III ^p D <i>ta-</i>	<i>yagōna^o</i> (beside <i>yagōr</i>) 'may he be slaughtered!' (LV 47)	<i>yalkāč</i> 'may it be cut!' (LV 58) <i>yasōm</i> 'may it be appointed!' (LV 62) and <i>yamōl</i> 'may he causes to die!' (LV 62)	<i>baka</i> D <i>ta-</i> <i>mōta ta-</i> and <i>al-</i>
	III ^p A basic	<i>kīra^o</i> 'read!' (ES 100:6)	<i>bik</i> 'cry!' (LV 57) <i>ka'ab, kēb, kāb</i> 'testify!' (LV 44)	<i>baka</i> A basic II ^p A basic
	III ^p A <i>a-</i>	<i>argā^o</i> 'cause to coagulate!' (LV 47)	<i>affi</i> 'cause to be satiated!' (LV 58)	<i>baka</i> A <i>a-</i>
	III ^p A <i>ta-</i>	<i>tanasa^o</i> 'be taken!' (LV 47)	<i>tagaṇ</i> 'be thrown away!' (LV 58)	<i>baka</i> A <i>ta-</i>
	II ^p B basic	<i>sēdi</i> (beside <i>sēddi</i>) 'distribute!' (LV 44)	<i>mēč</i> 'wash!' (LV 57) <i>lēl</i> 'leave!' (LV 64) <i>kēb</i> 'testify!' (LV 44)	<i>baka</i> B basic <i>lēta</i> basic II ^p A basic

Morpho-logical form	Class, type and stem of a verb with ? in the root	Examples of forms with ? (with possible doublet forms without ?)	Examples of the corresponding form without ?	Class, type and stem of a verb without ?
simple imperfect	II ^p B <i>al-</i>	<i>assēdāi</i> (beside <i>assēddāi</i>) 'cause to distribute!' (LV 45)	<i>alhiġġ</i> 'cause to observe!' (LV 58) <i>alhiġk</i> 'cause to chew!' (LV 64) <i>alhiġb</i> 'cause to testify!' (LV 45)	<i>baka</i> B <i>al-</i> <i>lēta</i> <i>al-</i> II ^p A <i>al-</i>
	III ^p B <i>la-</i>	<i>lahēmna^r</i> (beside <i>lahēm</i>) 'be calumniated!' (LV 47)	<i>lammēċ</i> 'be washed!' (LV 58) <i>lahēġġ</i> 'be trampled!' (LV 64) <i>lahēġb</i> 'be testified!' (LV 45)	<i>baka</i> B <i>la-</i> <i>lēta</i> <i>la-</i> II ^p A <i>la-</i>
	III ^p C <i>ta-</i>	<i>taħħaba^r</i> (beside <i>taħħāb</i>) 'be anointed!' (LV 47)	<i>tafūċ</i> 'be seeked!' (LV 58)	<i>baka</i> C <i>ta-</i>
	III ^p D <i>la-</i>	<i>tagōna^r</i> (beside <i>tagōr</i>) 'be slaughtered!' (LV 47)	<i>tahōċ</i> 'be cut!' (LV 58) <i>tašōm</i> 'be appointed!' (LV 62)	<i>baka</i> D <i>la-</i> <i>mōta</i> <i>la-</i>
	III ^p A <i>la-</i>	<i>yūnasa^r(t)</i> 'he is taken' (LV 47) <i>ūnasa^r-kuta</i> 'dass sie genommen wurde' (WG-B 12)	<i>yilgānā(t)</i> 'it is thrown away' (LV 58) ¹⁴	<i>baka</i> A <i>la-</i>
	II ^p B basic	<i>yisēdāi</i> (beside <i>yisēddāi</i>) 'he distributes' (LV 44)	<i>yimūċ(t)</i> 'he washes' (LV 57) <i>yilū(t)</i> 'he leaves' (LV 64)	<i>baka</i> B basic <i>lēta</i> basic
			<i>yilim(t)</i> 'he calumniates' (LV 46)	III ^p B basic
			<i>yikūb(t)</i> 'he testifies' (LV 44)	II ^p A basic
			<i>yidūġ(t)</i> 'he comes' (LV 66)	<i>dūġa</i> basic

¹⁴ Only compound imperfect *yilgānāl* in LV 58; cf. forms like *yissatizāl* 'das gegeben wird' (WG 533), *yilkaizāhu* 'while they are roasted' (ES 214, 2).

Morpho-logical form	Class, type and stem of a verb with ? in the root	Examples of forms with ? (with possible doublet forms without ?)	Examples of the corresponding form without ?	Class, type and stem of a verb without ?
	II ^p B <i>at-</i>	<i>yassīrdi</i> (beside <i>yassīddi</i>) 'he causes to distribute' (LV 45)	<i>yahūk(i)</i> 'he causes to chew' (LV 64) <i>yahim(i)</i> 'he causes to caluminate' (LV 48) <i>yahis(i)</i> 'he causes to take' (LV 48) <i>yakīb(i)</i> 'he causes to testify' (LV 45) <i>yaddīg(i)</i> 'he causes to come' (LV 66)	<i>lēta at-</i> III ^p B <i>at-</i> III ^p A <i>at-</i> II ^p A <i>at-</i> <i>diġa at-</i>
	III ^p D <i>ta-</i>	<i>yigōrət(i)</i> (beside <i>yigōr</i>) 'he is slaughtered' (LV 47)	<i>yissōm(i)</i> 'it is appointed' (LV 62)	<i>mōta ta-</i>
compound imperfect	II ^p B basic	<i>yāsīrdāl</i> (beside <i>yāsīddāl</i>) 'he distributes' (LV 44) ¹⁵	<i>yimūčal</i> 'he washes' (LV 57) <i>yilūtal</i> 'he leaves' (LV 64) <i>yihimāl</i> 'he calumniates' (LV 46) <i>yikībāl</i> 'he testifies' (LV 44) <i>yidīgāl</i> 'he comes' (LV 66)	<i>baka B basic</i> <i>lēta basic</i> III ^p B basic II ^p A basic <i>diġa basic</i>
	II ^p B <i>at-</i>	<i>yassīrdāl</i> (beside <i>yassīddāl</i>) 'he causes to distribute' (LV 45)	<i>yalkīrāl</i> 'he causes to delay' (LV 58) <i>yahigīāl</i> 'he causes to observe' (LV 58) <i>yahūkāl</i> 'he causes to chew' (LV 64) <i>yahimāl</i> 'he causes to caluminate' (LV 48) <i>yahisāl</i> 'he causes to take' (LV 48) <i>yakībāl</i> 'he causes to testify' (LV 45) <i>yaddīgāl</i> 'he causes to come' (LV 66)	<i>baka A at-</i> <i>baka B at-</i> <i>lēta at-</i> III ^p B <i>at-</i> III ^p A <i>at-</i> II ^p A <i>at-</i> <i>diġa at-</i>
perfect	III ^p A basic etc.	<i>balatī</i> (beside <i>balatti</i>) 'she ate' (LV 46)	<i>*sačī</i> 'she drank', cf. <i>zisačī-sa</i> 'when she drinks' (ES 153:1)	<i>baka A basic etc.</i>

¹⁵ Note that WG 521 gives only assimilated forms, cf. section E under 2 and Appendix 2.

Appendix 2.

A. Various forms of verbs with *ʔ* (mostly from the glossary of WG¹⁵)

Verb	Forms with <i>ʔ</i> dropped	Forms with <i>ʔ</i> between two vowels	Forms with syllable-final <i>ʔ</i>
<i>balaʔa</i> 'essen' (WG 418)	<i>yōlumēl</i> <i>tōliñāš</i> a: <i>tabalat</i> at: <i>tatbile-be</i> at+C: <i>yatbālalū</i>		<i>mablaʔ</i> ta: <i>zaytibalaʔ</i> (ES 106:7) ta+Fr: <i>yitbilālaʔ</i>
<i>tadaraʔa</i> 'verletzt werden' (WG 433)	ta: <i>aytidarbaḥ</i>	ta+C: <i>zaytidāraʔō-kuta</i>	
<i>gabaʔa</i> 'zurückkehren' (WG 440)	<i>yigabzal</i> <i>yigabalu</i> (ES 249:12) <i>yigablayoḥol</i> <i>yigabbōzal (-be)</i> (ES 9:10) a: <i>yagaboḥol</i> <i>yagabōzal</i>	<i>isgabaʔa-ma</i> <i>gibaʔi-wā</i> (ES 78:3) a: <i>zagabaʔu-sa</i>	<i>yagbaʔbā-wā</i> (ES 78:4) a: <i>magbaʔ-le</i> (ES 189:5, 189:9)
<i>gōraʔa</i> 'schlachten' (WG 443)	<i>yugūruyoḥol</i> <i>gōruñ</i> at: <i>yadgūrā-le</i>	<i>zigōraʔō-ma</i> (ES 42:3) ta: <i>yidgōraʔu</i>	ta: <i>yitgōraʔzal</i> (ES 41:8)
<i>gazaʔa</i> 'regieren' (WG 446)	<i>yigazi</i>		
<i>kābaʔa</i> 'anstreichen' (WG 471)	<i>yikāboḥol</i> <i>yikābē-ma</i> <i>yikābalu</i> (WG 413)		
<i>ḵanaʔa</i> 'sich begeben' (WG 478)	<i>yikanal</i> <i>tikānat</i> <i>yikanāw</i> (WG C 19) <i>yikanayu-wā</i> a: <i>yaḵanal</i> <i>yaḵanāzāl</i> (×2)		<i>maḵānaʔti</i> (WG B 2 Komm.) <i>maḵnānaʔti-be</i> (WG F 19, B 2 Komm.)
<i>atḵēñaʔa</i> 'Neid erregen' (WG 479)	at: <i>yatḵññzal</i>		

¹⁵ Examples from WG are usually adduced without reference. Forms with *ʔ* assimilated to the preceding consonant are underlined. Forms demonstrating the variation *ʔ/Ø* are bold-faced (variant forms with post-consonantal *ʔ* are listed in the first column). Verbs are listed in the following order: verbs III^ʔ—verbs II^ʔ—biradical verbs with *ʔ* as the second consonant—verbs with the initial etymological *ʔ* or *ʕ*.

Verb	Forms with ? dropped	Forms with ? between two vowels	Forms with syllable-final ?
<i>ḵaraʿa</i> ‘lesen, rezitieren’ (WG 481)	<i>yīkarzāl</i> ḵurān (WG D 3 +, ES 171:1 +)/ ḵurʿān (ES 209:2, 209:3) makra (EDH 110)	ta: <i>yitḵaraʿāl</i> at: <i>atḵēraʿa</i>	<i>ḵiraʿ</i> makraʿ (ES 209:2, 172:10, WG D 10) ta: <i>yitḵaraʿzāl</i>
<i>malaʿa</i> ‘füllen’ (WG 500)	<i>yimalā-ma</i> <i>timalat</i> <i>yimaloḥol</i> <i>yimalalu</i> <i>yimalluyū-ma (-le)</i> (ES 219:8) <i>yimalu</i> (×2) <i>zimale-ma</i> at+C: <i>yatmāllāmēl</i> (-le) (WG G 4)	ta: <i>yitmalaʿalu</i> <i>zitmalaʿa-zo</i> (ES 239:2) at: <i>zatmālaʿō-sa</i>	<i>mulūʿ</i> (WG D 19, ES 37:8, EDH 107) at: <i>matmālaʿ-le</i>
<i>nafaʿa</i> ‘nützen’ (WG 509)	<i>tinafaʿīnat</i> <i>yinafeḥel</i> naḥi/naḥʿi (WG 510)	<i>zinafaʿēñ</i> ta: <i>yitnāfaʿu</i> <i>yitnāfaʿubō-kuta</i> <i>yitnāfaʿālu</i> <i>yitnāfaʿubohol</i>	ta: <i>yitnāfaʿbōm</i> (×2) (WG D 32) <i>yitnāfaʿbōn</i> (WG D 32 Komm.) <i>nitnāfaʿbahana</i> (WG B 5)
<i>nakaʿa</i> ‘berühren’ (WG 511)	<i>zinakew</i> <i>yinakāzāl</i> <i>yinakizāl</i> a: <i>tanakaḥat</i>	<i>nakaʿew</i> <i>zaynikaʿā-kut</i>	<i>mankaʿ-le</i> <i>zaynikaʿ</i>
<i>nasaʿa</i> ‘nehmen’ (WG 512)	<i>yīnasu-ma</i> <i>yīnasal</i> (ES 6:12) <i>yīnasāzal</i> <i>yīnasleyuzal</i> <i>tīnasahat</i> <i>yīnas-ma</i> (WG 397) at+C: <i>yatnāsalu</i> (WG 397)	<i>nasaʿabew</i> <i>zīnasaʿa</i> <i>zīnasaʿunat-le</i> <i>nasaʿo</i> ta+C: <i>yitnāsaʿi</i>	<i>zaynisaʿnatuw</i> (WG E 26) <i>mansaʿ-le</i> (WG C 23) ta: <i>titnasaʿ-kuta</i> ta+C: <i>matnāsaʿ</i>
<i>rasaʿa</i> ‘vergessen’ (WG 520)	at+C: <i>yatrāsahal</i>	<i>rasaʿo</i> ta: <i>tarasaʿa</i> <i>yitrasaʿumēl</i>	<i>almarsaʿ-zo</i> ta: <i>matrasaʿ</i> at+C: <i>matrāsaʿ-le</i> (×2)
<i>samaʿa</i> ‘hören’ (WG 528)	at: <i>assēma</i> (ES 25:6) at+C: <i>yassāmal</i> (ES 156:5) <i>tassāmat</i> (WG G 45)	ta: <i>yissamaʿumēl</i> (×2)	<i>zīsamaʿti-sa</i> (ES 148:3) <i>alsamaʿḥum</i> (ES 199:12) <i>zaysīmaʿ</i> (ES 125:9)

Verb	Forms with ? dropped	Forms with ? between two vowels	Forms with syllable-final ?
<i>saraʔa</i> 'aufreihen' (WG 531)	<i>yisarubohol</i> <i>tisarat</i>		ta: <i>yisaraʔbāzal</i>
<i>tafaʔa</i> 'schädlich sein' (WG 543)	<i>yitafayu</i>		
<i>talaʔa</i> 'nicht mögen' (WG 544)	<i>yitalal</i>		
<i>wataʔa</i> 'herauskommen' (WG 555)	<i>watta</i> (ES 194:4) <i>kilwattu</i> (ES 38:3) <i>zawatta-be</i> (ES 216:7) <i>yüčizāl</i> (+ other forms with č̣)	<i>zōtaʔō-sa</i> <i>zōtaʔaleyu</i> (WG B 9) <i>wiṭuʔu</i>	<i>marwaʔ</i> (ES 3:4; 195:3)
<i>tafāʔala</i> 'sich von Gott et- was Gutes erbit- ten' (WG 435)	ta: <i>yitfālubōzal</i> (ES 169:7)	ta: <i>tafāʔul</i> (ES 188:2) <i>zitfāʔalu-be</i> (ES 169:9)	
<i>kaʔaba,</i> <i>kāba, kēba</i> 'entscheiden' (WG 465)	<i>yikibizāl</i>		
<i>laʔaḥa,</i> <i>lāḥa, lēḥa</i> 'schicken' (WG 485)	<i>lāho</i> <i>yilḥal</i> <i>yilāḥal</i>		
<i>sēʔada</i> 'verteilen' (WG 521)	<i>yisiddohol</i> <i>nisiddahana</i> <i>siḡa</i> (EDH 138)	<i>masēʔad-le</i> <i>siʔiḡa</i> (WG D 2) ta: <i>yissēʔadu</i> <i>tasēʔadān nāra</i> <i>yissēʔadal</i> <i>yissēʔadalu</i> <i>zissēʔattin</i> <i>yissēʔadohol</i> <i>yissēʔadzālu</i> ta+C: <i>tissēʔadzāt</i>	
<i>tasāʔala</i> 'beten' (WG 522)		ta: <i>tissāʔalzāt</i>	
<i>tasaʔama/asēma</i> 'verkauft wer- den/verkaufen' (WG 522/527)	ta: <i>yissāmzāl</i> (WG B 28 Komm.) <i>yissāmubohol</i> (ES 83:11)	ta: <i>yissaʔamizāl</i> (WG B 28) <i>yissaʔamālu</i> (WG G 12)	

Verb	Forms with [?] dropped	Forms with [?] between two vowels	Forms with syllable-final [?]
	a: <i>yasīmālu</i> (×2) <i>yasīmlahāla</i> <i>yasīmlehel</i> <i>masēma-le-wa</i> <i>yasīmzal</i>		
<i>ṭaʿana</i> , <i>ṭāna</i> , <i>ṭēna</i> 'laden' (WG 541)	<i>kilṭēna</i> <i>yīṭīmō-ma</i> (ES 42:5) ta: <i>zaytiṭēnu</i> <i>zittēnaw</i>		
<i>waʿala</i> , <i>wāla</i> 'den Tag ver- bringen' (WG 549)	<i>yūlubōzāl</i> a: <i>zawēlḥaṅ</i>		
<i>bōʿa</i> '(hinein)gehen' (WG 416)	<u>yubūllahaḥ</u> (ES 63:9)	<i>yubūʾō</i> <i>yubūʾal</i> <i>yibūʾal</i> (×4) <i>bōʾu</i> <i>zibōʾo</i> <i>zibōʾubo</i> (ES 32:10) <i>zibōʾāč</i> (ES 31:14) <i>maboʾa</i> (WG G 9)	<i>yibūʾ-ma</i> (ES 172:6) <u>yibūʾlāmēl</u> (ES 172:11) <i>yubūʾzalu</i> (WG C 6) <i>yubūʾzālīn ta</i> (WG F 52)
<i>akōʿa</i> 'vergiessen' (WG 465)		a: <i>zakōʾalēn</i> at: <i>yatkuʾoḥol</i>	
<i>aṅēʿa</i> 'legen' (WG 515)	a: <i>maṅīt</i>	a: <i>yaṅīʾoḥol</i> <i>yaṅīʾaḥal</i>	
<i>riʿa</i> 'sehen' (WG 516)	<u>arriḥḥāmi</u> (negative) (WG B 25 Komm.) <i>mara-zē-be</i> (ES 112:11) a: <i>yāranahaḥal</i> <i>yārāzāl-kut-be</i> <i>yārānazal-kusso</i>	<i>ziriʿa-sa</i> ta: <i>taraʿa</i> (WG 516) <i>yitriʾumēl</i> (×2) <i>yitriʾalu</i> <i>yitriʾanahaḥal</i> <i>yitriʾaḥal</i> <i>yitriʾālu</i> <i>yitriʾal</i> <i>taraʾeyu</i> (ES 106:5) <i>yitraʾaṅumēl</i> ta+C: <i>yitrāʾri</i> <i>tarāʿa</i> <i>yitrāʾālu</i> <i>yitrāʾubōzāl</i> <i>matrāʿa</i> (×2) at+C: <i>yatrāʾayohol</i>	a: <i>mōraʿ-le</i> <i>mōraʿ-lēn</i> ta+C: <i>tarāʾḥan</i> (WG 526, sub <i>sila</i>)

Verb	Forms with ? dropped	Forms with ? between two vowels	Forms with syllable-final ?
<i>agada</i> 'anbinden' (WG 396)	<i>tagdi-ma</i> (×2) <i>yagduyohol</i> <i>agadeyu</i> <i>ugud</i> ta: <i>yittagad-ma</i>		
<i>ēkaba</i> 'warten' (WG 401, 393)	<i>yīkbal</i> <i>yīkbalu</i> (×2) <i>yīkbañal</i> (ES 160:10) <i>yībkāl</i> (metathesis) <i>yībkōzal</i> (metathesis) <i>zalēkaba-be</i>		
<i>aḳara</i> 'einwickeln' (WG 401)	<i>yaḳroḥol</i> (ES 40:7) <i>yaḳru-ma</i> (ES 37:12)		
<i>amana</i> 'glauben' (WG 404)	<i>zayimanañ</i> <i>yāmnāzāl</i> <i>yāmnām</i> <i>yāmnalu</i> at: <i>mattēman-le</i>		
<i>ēmara</i> 'befehlen' (WG 405)	<i>yīmrayuzal</i> <i>ēmaruyu</i> <i>zēmaro</i>		
<i>anasa</i> 'weniger sein' (WG 406)	<i>yanasmām</i> <i>yansi-zo</i> <i>yansal</i> <i>tansi</i> <i>anasa</i> <i>yanas</i> <i>unusnat</i>		
<i>āka</i> 'wissen' (WG 399)	<i>nūkāna</i> <i>yūkāl-ma</i> <i>yūkālu</i> (WG F 9) <i>zayūḳ</i> <i>tūkāmēt</i> <i>yūkuyuzāl</i> <i>yūḳi-kuta-le</i> <i>ūḳāzāḥ-kut-be</i> <i>mōḳa</i> (WG F 33, F 38) <i>zayūḳ</i> <i>yūkumēl</i> <i>yūḳzālu</i>		

Verb	Forms with ? dropped	Forms with ? between two vowels	Forms with syllable-final ?
	ta: <u>zittāwaka</u> lewin (×3) <u>tittāwaka</u> zat <u>zittāwaka</u> lew <u>zittāwaka</u> ti <u>yittāwaka</u> zāl at: <u>yattīwaka</u> nahal atēwakeyu (ES 193:2), but cf. <u>attēwaka</u> (LV 61) <u>yattīwaka</u> l <u>mattēwaka</u> -lēn <u>yattīwaki</u> -kuta-lēt		

B. Forms of verbs with initial vowel borrowed from other languages or with unclear etymology (mostly from the glossary of WG¹⁶)

Verb	Forms with ? dropped	Forms with ? between two vowels	Forms with syllable-final ?
<i>abala</i> 'verweifern' (WG 393)	<i>zabala</i> <i>atibalaḥ</i> <i>mabal</i>		
<i>ēgala</i> 'beginnen' (WG 397)	<i>yīgli</i> <i>zēgalu</i> (WG D 45) <i>yīglāzal-kut</i> (ES 98:9) <i>mēgal</i>		
<i>ēmada</i> 'sprechen' (WG 404)	<i>īmdaḥ</i> <i>tīmdaḥat</i> <i>yīmdī-ma</i> ta: <i>zītēmadew</i> (ES 85:8)		
<i>ēsaba</i> 'hineintun' (WG 407)	<i>yīsbō-ma</i> (×2) <i>yīsbubōḥol</i> <i>yīsbi-ma</i> <i>tīsbi-ma</i> <i>yīsbāl</i> (×2) <i>mēsab</i> (×2) <i>ēsbuñ</i>		

¹⁶ Forms going back to the glossary of WG are usually given without reference. Forms with ? assimilated to the preceding consonant are underlined.

Verb	Forms with ʔ dropped	Forms with ʔ between two vowels	Forms with syllable-final ʔ
<i>asala</i> 'hinaufsteigen' (WG 408)	<i>zasalʔi-sa</i> <i>zasalō-sa</i> <i>yaslal</i> <i>yasli-ma</i> (×2) <i>usulti</i> <i>masal</i> (EDH 33)		
<i>at(t)ēšaqa</i> 'verliebt machen' (WG 411)	at: <i>atēšaḳeyu</i> <u><i>tattiškizat</i></u>		
<i>ēda</i> 'erzählen' (WG 395)	<i>īdāmēḥ</i> ta: <u><i>yittēdlayoḥol</i></u> (WG G 34)		
<i>āša</i> 'zu tun veranlassen' (WG 395)	<i>āšēw</i> (×2) <i>yāšal</i> <i>yāšalu</i> <i>yāšaḥal</i> <i>yāšuloḥol</i> <i>atūšbana</i> <i>āšalew</i> <i>yāšzālu</i> (ES 99:6) <i>mōša-le</i> at: <u><i>yattišal</i></u> <u><i>yattišāzal</i></u> <u><i>yattišēzal</i></u> at+C: <u><i>yattāšalu</i></u> <u><i>yattāše</i></u> (ES 112:6)		