

F.R.Palmer 1957

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Bulletin of School of Oriental and African Studies

Vol. 19, pp. 131-159

THE VERB IN BILIN

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THIS paper is a study of the verbal forms of Bilin,¹ which is spoken in and around the town of Keren in Eritrea. Bilin is usually regarded as one of the dialects of the Cushitic language of Agau,² but it differs considerably from the Agau dialects of Ethiopia proper, and, while undoubtedly to be classified as Cushitic, has much phonological, and a little morphological affinity with the neighbouring Semitic languages of Tigre and Tigrinya. Research was undertaken in the field in 1952-3; several informants were employed, but much of the material was provided from the speech of one man, Teclamaryam Tecuray, and all the material presented here was verified as valid for his speech.

The forms associated with the 'scatter'³ of a single verb in Bilin are very numerous, running, in theory at least, to over 10,000. The majority of these forms may be regarded linguistically as composed of three separate elements, each referable to a lexical or grammatical feature, Bilin being, to that extent, an 'agglutinative' language. An ideally simple statement, which treated each form as three completely distinct segments related only in sequence, is, however, impossible for two reasons. First, the remaining forms, which include those most commonly attested, cannot be treated each as three separate phonological and grammatical or lexical elements, Bilin being also partly 'inflectional'. Secondly, there are two phonetic features, one of pitch pattern and the other of vowel harmony, which preclude the treatment of any form as merely a sequence of three elements; for the pitch pattern is statable only in terms of the entire word, and not of any one segment, and the vowel harmony not only extends phonologically over more than a single element, but also has reference to grammatical or lexical features that are more closely associated with other segments than with the segment of which it is a phonetic characteristic.

The phonological and morphological framework within which the analysis is undertaken is explained in the text itself. One point must be made clear; the approach is 'polysystemic'.⁴ No attempt is made to suggest an overall phonological statement for the whole of Bilin, no account being taken of the

¹ Also known as Bilen. I prefer the form Bilin, as a transliteration of the name used by the Bilin themselves—*bəlin*; the form Bilen is derived from the Tigre and Tigrinya form of the name—*bəlen*.

² cf. A. N. Tucker and M. A. Bryan, *The non-Bantu languages of north-eastern Africa* (Handbook of African Languages, Part III), London, O.U.P., 1956.

³ cf. for this term, J. R. Firth, 'Technique of semantics', *TPS*, 1935, 62.

⁴ cf. J. R. Firth, 'Sounds and prosodies', *TPS*, 1948, 151, and the works quoted by R. K. Sprigg, 'The tonal system of Tibetan', *BSOAS*, xvii, 1, 1955, 134, n. 2.

non-verbal forms, nor is a single homogeneous statement made even for the verbal forms. The analysis is framed to suit the material under consideration at each stage, taking into account both its phonological and its grammatical characteristics.¹

The paper is divided into five main parts.² § 1 is an outline statement of the grammatical categories employed; it is based partly on the requirements of the morphological analysis that follows and partly on syntactical features that must remain unstated, and it forms a framework within which the phonological statement may be made. § 2 deals with the main details of the phonology and § 3 with the main details of the morphology. § 4 is concerned with a few types of verb for which a different morphological statement is required, and § 5 with the morphological statement of the 'themes', which is excluded from § 3.

1. *Grammatical Outline.* The forms may be arranged in terms of four categories—'theme', tense, number-cum-gender, and person.³

11. *Theme.* For the category of theme a *system* of eight *terms*⁴ is required. This is illustrated by the following forms, which are identical in respect of the other categories:

q ^w alək ^w ⁵	Simple Active
q ^w aləstək ^w	Simple Passive
q ^w alisék ^w	Simple Causative
q ^w aləstəŋék ^w	Reciprocal
q ^w alisəŋék ^w	Reciprocal Causative
q ^w alələŋék ^w	Frequentative Active
q ^w alələŋéstək ^w	Frequentative Passive
q ^w alələŋisək ^w	Frequentative Causative

12. *Tense.* The category of tense is here employed in the sense that each set of forms arranged in paradigm in terms of number-cum-gender and person

¹ For the relation between grammar and phonology cf. my 'The "broken plurals" of Tigrinya', *BSOAS*, xvii, 3, 1955, 548-9.

² In my enumeration each successive digit denotes a subsection of the previous section. Thus § 11, § 12, § 13, and § 14 are subsections of § 1; § 211, § 212, and § 213 are subsections of § 21, which is a subsection of § 2.

³ I take 'theme' from W. Leslau's *Documents tigrigna*, Paris, 1941, in preference to 'derived form' or 'aspect', since I use 'form' and 'aspect' in a different sense. It cannot be too strongly stressed that this name, and all other names of categories, as well as all the translations, are employed solely for the identification of the categories or forms; they do not form an integral part of the linguistic analysis, which avoids all reference to notional criteria.

⁴ For the technical terms *system* and *structure* cf. W. S. Allen, 'Retroflexion in Sanskrit', *BSOAS*, xvi, 3, 1954, 556, n. 2. Important technical terms, where first used, are printed in italics.

⁵ I use a transliteration of the Ethiopic script used by my informant, except that I write *ə* for the 'sixth form' only where there is a vowel; where there is no vowel, the consonant alone is written. The symbols have roughly the values of those of I.P.A., except that *ɬ* is used for [t'], *c* for [tʃ], *q* for [k'], *j* for [dʒ], *y* for [j], *h* for [ħ] and *k^w*, *g^w*, *q^w*, *z^w*, and *ŋ^w* for the labiovelars. The prominent syllable is indicated by an acute accent on the vowel symbol.

comprises a different tense. The paradigm of **jəbɪx^w** 'he bought' differs from that of **jəbɛx^w** 'who bought' solely in tense; the syntactical functions of the various tenses differ very considerably. The number of completely different paradigms that may be established is over 200, but for economy of statement some of these may be handled together, and the number of tenses given here is 40.¹

The tenses are to be divided into two 'aspects', referred to as 'Aspect A' and 'Aspect B'. Aspect, as shown in § 312, is established by reference to the phonological statement of pitch pattern and vowel harmony. Several of the tenses may be paired, one belonging to Aspect A and the other to Aspect B, and differing solely in the phonological features associated with each Aspect.

e.g. jəbét	(Aspect A)	(says) that he bought
jəbet	(Aspect B)	(says) that he buys
jəbɛx^w	(Aspect A)	who bought
jəbex^w	(Aspect B)	who buys

Most of the tenses, however, have no such corresponding tense in the other Aspect.

e.g. jəbé	(Aspect A)	having bought
jəbɪnɛdik	(Aspect A)	if he bought
jəbék	(Aspect B)	he bought and . . .
jəbén	(Aspect B)	if he buys

13. *Number-cum-gender.* Number and gender are not to be regarded as two grammatical categories, but as a single category with a system of three terms. In traditional terminology these would probably be referred to as 'masculine singular', 'feminine singular', and 'plural common' but to avoid the implication that number and gender are distinct categories, they will be referred to simply as 'masculine', 'feminine', and 'plural'.

e.g. gebək^w	masculine	he refuses
gebɛti	feminine	she refuses
gebɛnɛk^w	plural	they refuse

14. *Person.* A system of three terms is required for the category of person. These are referred to as 'first', 'second', and 'third' person.

e.g. gebək^wén	first	I refuse
gebɛɪk^w	second	you (sing.) refuse
gebək^w	third	he refuses

If the categories were based upon the morphology of the verb alone, it would not be possible to establish separate categories for number-cum-gender and person, each with a system of three terms, since this would imply the

¹ For instance, only one tense is here recognized for **gebɛx^w** 'who refused' (§ 3221), but these forms agree in case (as well as number-cum-gender and person) with the noun. There is, therefore, a different paradigm (of seven members) for each case; cf. the Appendix. On the other hand the number of tenses could be stated as 16 only, if all paradigms with similar endings are classed together as one tense. The number 40 is a convenient compromise between the two extremes.

possibility of nine different forms, whereas in fact no paradigm arranged with reference to these categories contains more than seven forms, and many paradigms have only five. An example of each type of paradigm is as follows :—

3 m.	gebek^w	he refuses
3 f.	gebeti	she refuses
2 m/f	gebrek^w	you (sing.) refuse
1 m/f	gebek^wén	I refuse
3 pl.	gebnék^w	they refuse
2 pl.	gebdenék^w	you (plur.) refuse
1 pl.	gebnék^wén	we refuse
3 m., 1 m/f	gebnédik	if he/I refused
3 f., 2 m/f	gebrénédik	if she/you (sing.) refused
3 pl.	gebnénédik	if they refused
2 pl.	gebdénénédik	if you (plur.) refused
1 pl.	gebnénédik	if we refused

The morphology of the verb alone would justify only a seven term system for the category of number-cum-gender-cum-person, but a three term number-cum-gender system is established syntactically by reference to concord with nominal forms for which a paradigm of three members is required (e.g. masculine **cenam**, feminine **cenami**, plural **cenaman**, 'deaf'). But although the two grammatical categories of number-cum-gender and person can in this way be established separately, and must be clearly distinguished in a syntactical statement, it is convenient in the morphological statement to handle the two categories together by setting up five- and seven-member paradigms as illustrated.

2. *Phonology.* The phonological statement is made in terms of two types of *element*, *phonematic* and *prosodic*. Phonematic elements are of two generalized kinds, consonant and vowel, or, better, C and V,¹ and comprise the phonematic structure of the word; for instance **q^walax^w** 'he saw' is stated as CVCVC. Prosodic elements are features of pieces larger than the individual phonematic elements and in Bilin may be treated as features of the entire word. For both the phonematic and the prosodic elements systems of commutable terms are to be established, these terms being referred to as *phonematic units* and *prosodies*. *Phonetic exponents* are to be stated for all the terms in the systems.

The detailed description of both the phonematic and the prosodic elements depends upon the statement of the phonematic structure; the detailed description of the phonematic elements in turn depends to some extent upon the statement of the prosodies. The phonological analysis begins, therefore, with phonematic structure (§ 21), and then deals successively with prosodies (§ 22) and phonematic units (§ 23).

¹ I prefer to use C and V, and use 'consonant' and 'vowel' as phonetic terms. For much of the theoretical approach cf. my "Openness" in Tigre', *BSOAS*, xviii, 3, 1956, 561-77.

21. *Phonematic structure.* In terms of its phonematic structure, the word in Bilin is divisible in two ways. First, it may be divided into syllables, with the statement of syllabic structure, and secondly it may be divided into *stem* and *ending*, with the ending further divisible into an *infix* or *infixes* and *suffix*. The latter division is of morphological relevance, as shown in § 3, but it is also phonologically justifiable, since it is essential for the statement of the 'junction feature' (§ 213), of both prosodies, and of the phonematic units.

211. The statement of the syllabic structure requires the recognition of syllables of two types, CV and CVC; combinations of these are various, and a word may consist of from one syllable to at least as many as twelve. Syllabic division will be indicated by a bar.

e.g. gebek^w	he refuses	CV/CVC
genjek^w	he sleeps	CVC/CVC
genjú	while he slept	CVC/CV

212. Division into stem and ending cuts across syllabic division; it is indicated by a hyphen.

e.g. gebek^w	he refuses	CVC-VC
genjek^w	he sleeps	CVCC-VC
genjú	while he slept	CVCC-V

For many of the forms, but not all of them, the ending may be further divided into infix and suffix, and for a small number of forms into two infixes and a suffix. (The statement of phonematic structure for the examples below is provisional and therefore asterisked; an emended statement is to be found in the next section.)

e.g. gebrú	while you (sing.) refused	*CVC-C-V
gebdənú	while you (plur.) refused	*CVC-CVC-V
gebdənənədik	if you (plur.) refused	*CVC-CVC-VCVCVC
gebgérət	(says) that you (sing.) did not refuse	*CVC-C-VC-VC
gebgédənət	(says) that you (plur.) did not refuse	*CVC-C-VCVC-VC

213. There is a feature that is related to phonematic structure, but statable only in terms of the stem-ending division, and is, in fact, a 'junction feature'. At a point in the word that is determined by this division, there is between comparable forms an alternation between a half close central vowel and absence of any vowel, this alternation being entirely conditioned by the question of syllabic structure. This is illustrated by the following forms:—

gebek^w	he refuses
gebrək^w	she refuses
genjek^w	he sleeps
genjərek^w	she sleeps

The stem of the first two forms is to be stated as CVC, and that of the second two as CVCC. **gebek**^w and **genjek**^w are divisible as CVC-VC and CVCC-VC respectively. A similar treatment of **gebrek**^w and **genjerek**^w as CVC-CVC and CVCC-VCVC would be possible, but misleading, for the presence of a half close central vowel in **genjerek**^w and the absence of any such vowel in **gebrek**^w is wholly determined by phonological structure. A form ***genjrek**^w would be exactly parallel with **gebrek**^w, but would not conform to the possible syllabic structures of Bilin; for CVCCVC cannot be analysed into syllables of the types CV and CVC. A form **geberek**^w would be exactly parallel with **genjerek**^w; this would be syllabically possible, but, in fact, forms with structure CVC-VCVC and a half close central vowel as the exponent of the first element of the ending are not attested.

It is desirable to avoid making the absence of the half close central vowel in the one form and its presence in the other exponents of different phonological categories. This may be done by treating **gebrek**^w and **genjerek**^w either as CVC-CVC and CVCC-CVC respectively, or as CVC-VCVC and CVCC-VCVC. The former solution is unsatisfactory, both because it is contrary to the statement of syllabic structure, and because it assigns no phonological status to the half close central vowel of **genjerek**^w. The second solution will be adopted, because it does not contradict the syllabic statement, and it gives phonological status to the vowel; its only peculiarity is that it establishes for **gebrek**^w a phonological element whose exponent is the absence of a vowel between two consonants, or, more briefly, 'nil'.

The phonematic unit whose exponent is either half close central or nil will be referred to as ə. ə will be used, in the statement of the phonematic units (§ 23), as a term in several different V systems; for our purpose here it is sufficient to state that it differs from the other terms in the systems in that its exponent is either half close central or nil. ə has these alternative exponents only when it is a term in the V system which forms the first element of the ending; in all other cases it has the single exponent of a half close central vowel.

The syllable for which this special statement is required extends across the stem-ending division; its first C is at all times the final element of the stem and its V the first element of the ending. For that reason it will be referred to as the 'junction syllable'.

The phonetic exponent of ə in the junction syllable is, as already stated, either half close central or nil, as determined by the syllabic structure. Where the absence of V (in this case, ə) would imply syllabic structures not analysable into CV and CVC, its exponent is half close central; elsewhere it is nil. For instance, in **genjerek**^w (CVCC-VCVC) its exponent is half close central since absence of ə would imply the syllabically impossible *CVCCVC, whereas in **gebrek**^w it is nil, since absence of ə implies the possible structure CVC/CVC.

With the treatment of nil as the exponent of ə, a term in V, an emended statement of the forms **gebrú**, **gebdanú**, **gebdanénedik**, **gebgéret**, and **gebgédanet**,

quoted in § 212 is possible ; they are CVC-VC-V, CVC-VCVC-V, CVC-VCVC-VCVCVC, CVC-VC-VC-VC, and CVC-VC-VCVC-VC respectively.

214. For those forms for which two infixes are required, ə has alternative exponents of half close central and nil, not only in the junction syllable, but in the following syllable also. This, too, is a 'junction syllable'—of the two infixes, but this term will be used technically only of the syllable specified in § 213. The need for the recognition of alternative exponents for ə in two syllables is illustrated by the following forms :—

gəbgəret	(says) that she did not refuse	CVC-VC-VC-VC
jəbigrət	(says) that she did not buy	CVC-VC-VC-VC
genjəgrət	(says) that she did not sleep	CVCC-VC-VC-VC

Comparison of **gəbgəret** with **genjəgrət** shows the need for the statement of alternative exponents in the junction syllable. Comparison of both these forms with **jəbigrət** (not ***jəbigəret**), shows the need to recognize alternative exponents in the following syllable also.

In this second syllable the rule for the exponent of ə is different from that stated for the junction syllable. The exponent is half close central when the vowel term of the preceding syllable (the junction syllable) is also ə, as in **gəbgəret** and **genjəgrət** ; otherwise it is nil, as in **jəbigrət**. It is to be noted that the question of syllabic structure, which is relevant in the statement of the exponents of ə in the junction syllable, is not so relevant here ; for, while it would preclude ***gəbgrət** it would not preclude ***genjəgrət**, yet this form is not attested.

22. *Prosodies*. The two prosodic systems with which the analysis of the Bilin verb is concerned are, first, a system of prominence patterns, and, secondly, a system involving vowel qualities. The first of these deals with the pitch patterns and the second with the varieties of vowel harmony. Both are prosodies of the entire word, though their phonetic exponents are features of syllables or groups of syllables. In the case of prominence it is obvious that, although one syllable is stated to be prominent, the prominence pattern belongs to the word as a whole. Vowel harmony is a phonetic feature of certain syllables only, not of the entire word, but it is a feature of only one set of such syllables that may be clearly defined. It is, therefore, appropriate to characterize the word in terms of the type of vowel harmony, and so to treat this prosody too as a prosody of the word.

221. *Prominence patterns*. In terms of prominence all words in Bilin are to be treated as having either one prominent syllable or none. The phonetic exponent of prominence is a pitch higher than that of the preceding syllable.¹ Various syllables may be prominent, but, if the forms of each complete paradigm are considered together, a system of four patterns may be established.

¹ Except in the case of the final syllable of a sentence-final word, where a high falling pitch is the exponent either of a prominent syllable or of the absence of prominence in the word.

The prominence pattern is to be stated by reference to the junction syllable, and a relevant feature is whether, when ə is the V term of the junction syllable, its exponent is half close central or nil. When the exponent is nil, it will be stated that the syllable is 'unvowelled'; in all other cases (if the exponent is half close central or if the V term of the junction syllable is not ə), the syllable will be stated to be 'vowelled'. It is to be noted that for verbs whose stems end in two C elements, e.g. *gənjəna*¹ 'to sleep' (stem CVCC) it follows from the statements on syllabic structure and on ə that the junction syllable is vowelled throughout the entire scatter.

The prominent syllable of the four possible prominence patterns is as follows:—

- (i) the syllable preceding the junction syllable,
- (ii) the junction syllable, when vowelled; when unvowelled, the syllable following it,
- (iii) the junction syllable, when vowelled; when unvowelled, the syllable preceding it,
- (iv) no syllable or any syllable, as determined by the grammatical status of the form.

For verbs whose stem ends in CC, and for which the junction syllable is vowelled throughout, there can be no distinction between (ii) and (iii). Verbs of this type are exemplified in the second set of paradigms given below; verbs whose stem ends in a single C, and for which the junction syllable is vowelled in some forms and unvowelled in others are exemplified in the first set of four.

<i>Stem</i>	(i) gəŋ-	(ii) ʃəŋ-	(iii) kəb-	(iv) gəb-
3 m., 1 m/f	gəŋex ^w	ʃəŋex ^w	kəbex ^w	gəbex ^w
3 f., 2 m/f	gəŋrex ^w	ʃəŋrex ^w	kəbrex ^w	gəbrex ^w
3 pl.	gəŋinex ^w	ʃəŋnəx ^w	kəbɪnex ^w	gəbɪnəx ^w
2 pl.	gəŋdɪnex ^w	ʃəŋdɪnəx ^w	kəbdɪnex ^w	gəbdɪnəx ^w
1 pl.	gəŋnəx ^w	ʃəŋnəx ^w	kəbnəx ^w	gəbnəx ^w
	(' who ran . . . called . . . helped . . . refused')			

<i>Stem</i>	(i) səxant-	(ii), (iii) ʔərʔ-	(iv) gənʃ-
3 m., 1 m/f	səxántəx ^w	ʔərʔəx ^w	gənʃex ^w
3 f., 2 m/f	səxántərəx ^w	ʔərʔərəx ^w	gənʃərəx ^w
3 pl.	səxántənəx ^w	ʔərʔənəx ^w	gənʃənəx ^w
2 pl.	səxántədənəx ^w	ʔərʔədənəx ^w	gənʃədənəx ^w
1 pl.	səxántənəx ^w	ʔərʔənəx ^w	gənʃənəx ^w
	(' who pities . . . knew . . . slept')		

¹ The identification of any Bilin verb is most conveniently made by the use of this form, the 'infinitive', for which see the end of § 3.

222. *Vowel quality.* The prosody of vowel quality is, like that of prominence, to be stated for the forms of a complete paradigm. It is, however, only in some second and third person plural forms that there is vowel harmony, i.e. that the vowel quality is a feature of more than one syllable.

2221. If these third and second person plural forms are considered, eight types of vowel sequence are to be noted. In the case of the second person forms, these are the vowels of the two syllables following the junction syllable; the possibilities are as follows:—

<i>First vowel</i>	<i>Second vowel</i>	e.g.	
(i) half close cen.	half close cen.	gebdənénédik	if you refused
(ii) half close cen.	half open cen.	gebdənét	(says) that you refused
(iii) half close cen.	half close back	gebdənó	(you) having refused
(iv) close front	close front	jəbdinínédik	if you bought
(v) close front	half close front	jəbdinét	(says) that you bought
(vi) half open cen.	half open cen.	gebdənét	(says) that you refuse
(vii) half open cen.	open front	gebdənáka	when you refused
(viii) close back	close back	gebdunú	while you refused

In the case of the first person plural forms the vowels are the vowels of the junction syllable and the following syllable. They are identical with the vowels of the second person plural forms, with the exception that in the first syllable, being the junction syllable, *nil* is an alternative to half close central, depending on the syllabic structure. The first three vowel sequences are to be stated as:—

<i>First vowel</i>	<i>Second vowel</i>		
(i) half cl. cen./nil	half cl. cen.	{ genjənénédik gebnénédik	if they slept if they refused
(ii) half cl. cen./nil	half op. cen.	{ genjənét gebnét	(says) that they slept (says) that they refused
(iii) half cl. cen./nil	half cl. back	{ genjənó gebnó	(they) having slept (they) having refused

These forms illustrate four types of vowel harmony, and on the basis of them a prosodic system of four terms may be set up, the four terms being symbolized *z*, *y*, *a*, and *w*. (i), (ii), and (iii) are *z* prosodic, (iv) and (v) are *y* prosodic, (vi) and (vii) are *a* prosodic, and (viii) is *w* prosodic. For each prosody there is a single vowel quality in the first of the relevant syllables, but one, two, or three qualities in the second. The vowels related to each prosody

share with each other certain phonetic features which are describable as centrality, frontness, openness, and backness, as set out below.

<i>Prosody</i>	<i>Quality</i>	<i>First vowel</i>	<i>Second vowel</i>
<i>z</i>	central	half cl. cen./nil	{ half cl. cen. half op. cen. half cl. back
<i>y</i>	front	close front	{ close front half cl. front
<i>a</i>	open	half op. cen.	{ half op. cen. open front
<i>w</i>	back	close back	close back

There are two points to be noted. First, half close back is included under 'central'. The apparent difficulty is purely a terminological one; strictly the quality associated with *z* is 'mid (neither close nor open) and non-front', but such a description is too clumsy to use. Secondly, half open central is included under both 'open' and 'central'; in other words the areas of *z* and *a* overlap, but this leads to no ambiguity since the two prosodies are to be distinguished by the quality of the first vowel.

An example of a complete paradigm belonging to each type of prosody is given below:—

	<i>z</i>	<i>y</i>	<i>a</i>	<i>w</i>
3 m., 1 m/f	gebət	jəbét	gebət	gebú
3 f., 2 m/f	gebret	jəbrét	gebrət	gebrú
3 pl.	gebnét	jəbinét	gebenét	gebunú
2 pl.	gebdənét	jəbdinét	gebdənét	gebdunú
1 pl.	gebnət	jəbnét	gebnət	gebnú

(' (says) that he refused', etc., ' (says) that he bought', etc., ' (says) that he refuses', ' while he refused', etc.)

23. *Phonematic elements.* It is neither desirable nor possible to make a single statement of the C and V systems for all the phonematic elements. The analysis must be related to the distinction between stem and ending, and infix and suffix, and must take into account the statement of the prosodies.

231. For the elements of the stem the systems required are:—

C a system of 29 terms—b, f, m, t, d, ʈ, n, s, ʃ, c, j, k, g, q, x, ŋ, kʷ, gʷ, qʷ, xʷ, ŋʷ, r, l, w, y, ʔ, h, ʕ, ɣ.

V a system of seven terms—i, e, a, ə, ɐ, u, o (the exponent of ə, in the junction syllable only, being half close central or nil).

232. For the statement of the infix or infixes the possibilities are more restricted, but the statement more complex.

The C units are four only—r, n, d, and g. Of these g is a phonematic unit of the first infix where two infixes are established, this infix being at all times -əg-.

The vowel qualities are of four kinds only—half close central (which alternates with nil in the junction syllable), close front, half open central, and close back. If the prosodic statement is taken into account, these differences of vowel quality do not justify the recognition of four different phonematic units, since they have already been stated in the description of the prosodies. A single phonematic unit may be recognized with four exponents according to the prosody—half close central or nil in a *z* prosodic syllable, close front in a *y* prosodic syllable, half open central in an *a* prosodic syllable, and close back in a *w* prosodic syllable. These are clearly illustrated by the ‘first vowels’ of § 2221.

The statement is complicated by the fact that, in certain syllables of the infix, half close central or nil is the quality, irrespective of the prosody. This is best illustrated by comparing the third person plural forms, in which there are the four qualities, with the first person plural forms in which the quality of the relevant syllable is half close central or nil (in these examples the relevant syllable is the junction syllable, and the exponent is nil).

<i>Prosody</i>	<i>3 pl.</i>	<i>Quality</i>	<i>1 pl.</i>	<i>Quality</i>
<i>z</i>	gebnénedik	nil	gebnənədik	nil
<i>z</i>	gebnét	nil	gebnət	nil
<i>z</i>	gebnó	nil	gebno	nil
<i>y</i>	jəbinínədik	close front	jəbínədik	nil
<i>y</i>	jəbinét	close front	jəbnét	nil
<i>a</i>	gebenét	half open cen.	gebnət	nil
<i>a</i>	gebnáka	half open cen.	gebnáka	nil
<i>w</i>	gebunú	close back	gebnú	nil

The simplest statement of these forms is made by setting up two units, one of which has alternative exponents according to the prosody, the other with half close central or nil as its exponent irrespective of the prosody. The latter may without ambiguity be symbolized ə; for the former the symbol ɜ will be employed.

233. For the elements of the suffix, systems identical with those of the stem may be established, except for the first element of the suffix. The vowel qualities of this first element are, in fact, such that a seven term V system as stated for the other V elements could be set up, but this would ignore the prosodic characteristics of these vowel qualities. It is appropriate to establish a different V system for each prosody. The systems are, provisionally,¹ as follows:—

z—a system of three terms—ə, ɜ, and o. (One of the exponents of ə in the junction syllable is nil.)

y—a system of two terms—i and e.

a—a system of two terms—ɛ and a.

w—a system of one term—u.

¹ For the development of this see § 32112.

234. For the elements of the ending where no infix/suffix division is made, the statement is as for the suffix.

3. *Morphology.* The morphological statement made in this section is intended to cover not the entire scatter of a verb, but the forms of a single theme only. For, in terms of the phonological analysis suggested, it is possible to make a single set of morphological statements of tense, number-cum-gender, and person that is valid for any theme of any verb (with the exception of those treated in § 4). The features that differentiate the grammatically identical forms of different verbs or different themes are of two types, first, the phonematic elements of the stem, which are handled in the statement of the lexically distinct verbs and of the different themes, and, secondly, the prosodies, which are used in setting up verb classes. Within this framework the morphological statement of tense and the number-cum-gender and person paradigms is the same for all verbs and all themes.

The morphological relation between the themes must to some extent be treated lexically, though some degree of patterning is to be observed, as stated in § 5. To avoid confusion only the Simple Active themes of the verbs will be considered in this section, and the verbs will be classified in accordance with the characteristics of this theme. This classification will form a basis for the statement of the morphology of the themes in § 5.

31. The verbs of Bilin (the lexically distinct elements) are to be characterized in terms of

- (i) the phonematic structure of the stem and the terms in the C and V systems of the stem (§ 311) ;
- (ii) the prosodies of vowel quality and prominence ; in terms of these verb classes are to be established (§ 312).

311. The phonematic structures of the stem are of the following kinds :—

C ¹	fəna	go out
CVC	gəbna	refuse
CVCC	genjəna	sleep
CVCVC	waxítna	fight
CVCCVC	ʃawtítna	succeed
CVCVCC	səxántəna	pity
CVCCVCC	fəkkérdəna	surprise
CVCCVCCVC	jəŋqʷəlqʷólna	tickle

312. Verb classes are to be established in terms of the two prosodic systems. Each class is, however, characterized by the prosodic features of each of its two Aspects, and not by a single prosody from each system throughout its scatter. In terms of vowel quality alone, only two classes are to be distinguished, those that are *z* prosodic in Aspect A and those that are *y* prosody in this Aspect ; the vowel qualities of Aspect B are alike for all verbs, the tenses being *a*, *y*, and *w* prosodic.

¹ Verbs with stem C require a different statement from all others, and are treated in § 4.

The verb classes of Bilin are nine in all. In the table stated below an example of a verb with stem ending in both C and CC has been given wherever possible ; it must be remembered that for verb stems ending in CC there is no distinction of prominence patterns (ii) and (iii). The vowel quality of Aspect B is not stated in this table ; it is *a/w/y* for all verbs.

<i>Class</i>	<i>V. qual. (A)</i>	<i>Prom. (A)</i>	<i>Prom. (B)</i>	<i>e.g.</i>	
I	<i>z</i>	iv	iv	gəbna	refuse
				qəʔfəna	punish
II	<i>z</i>	iv	iii	támna	taste
III	<i>z</i>	ii	iii	fəŋna	call
		ii/iii	ii/iii	ʔərʔəna	know
IV	<i>z</i>	iv	i	fəkkərdəna	surprise
V	<i>z</i>	ii/iii	i	səxántəna	pity
VI	<i>z</i>	i	i	jəŋq^wəlq^wəlna	tickle
				kərkərdəna	crucify
VII	<i>y</i>	iv	iv	jəbna	buy
				kəntəna	learn
VIII	<i>y</i>	iii	iii	kábna	help
		ii/iii	ii/iii	k^wədŋəna	discuss
IX	<i>y</i>	i	i	gáŋna	run
				tərsəna	begin

32. As already stated, a single morphological statement may be made for all verbs, the differences in form between the various scatters having been stated as prosodic and treated as exponents of different verb classes. Moreover, since the prosodies have been handled in the statement of verb classes, the morphological statement of the tenses and their paradigms may be made almost entirely in terms of the phonematic elements alone. There are two exceptions to this :—

(a) For the tenses of Aspect B the vowel quality prosody is to be stated ; this may be *a*, *y* (one tense only), or *w* (one tense only) ;

(b) for paradigms of prominence pattern (iv), the prominence is to be stated for each member of the paradigm.

The morphological analysis that deals with number-cum-gender, person, and tense is in two parts. The first (§ 321) deals with those tenses whose forms may be treated in terms of infix and suffix ; for these separate statements of number-cum-gender together with person and of tense may be made ; all have a paradigm of five members ; and they are conveniently referred to as the 'five member paradigm tenses'. The second part (§ 322) deals with those tenses whose forms may not all be treated in terms of infix and suffix ; for these separate statements of number-cum-gender together with person and of tense cannot be made throughout the paradigm ; most of them have a paradigm of seven members and will be referred to as the 'seven member paradigm tenses'. In each part there is a further division into positive and negative

tenses; this division is a purely formal one, negative tenses being defined as those whose forms have an infix -3g-.

321. *Five member paradigm tenses.*

3211. *Positive tenses.* The two features that are not statable in terms of phonematic units may be dealt with briefly:—

(a) The vowel quality prosody of Aspect B tenses is *a* for all tenses except that of **gebú**, which is *w*, and that of **gebék** which is *y*.

(b) The prominence of forms of pattern (iv) is of two kinds:—

either the prominent syllable is the syllable containing the first element of the suffix throughout the paradigm,

or the prominent syllable is the syllable containing the first element of the suffix in the second and third person plural forms only, all other forms being without prominence.

In fact all *z* paradigms are of the first type and the *w* and *y* paradigms are of the second; *a* paradigms are of both kinds. An example of each type (both *a*) is set out below:—

3 m., 1 m/f	gebet	gebén
3 f., 2 m/f	gebret	gebrén
3 pl.	gebenét	gebenén
2 pl.	gebdenét	gebdenén
1 pl.	gebnét	gebnén ¹

Two statements are now required, one dealing with number-cum-gender and person in terms of the infix, and the other with tense in terms of the suffix.

32111. The infixes and their correlation with number-cum-gender and person are set out in the table that follows, with examples from each type of vowel quality prosody:—

	<i>Infix</i>	<i>z</i>	<i>y</i>	<i>w</i>	<i>a</i>
3 m., 1 m/f	<i>zero</i>	gebo	jəbé	gebú	gebáka
3 f., 2 m/f	<i>ər</i>	gebro	jəbré	gebrú	gebráka
3 pl.	<i>ɜn</i>	gebnó	jəbiné	gebunú	gebenáka
2 pl.	<i>ədɜn</i>	gebdenó	jəbdiné	gebdunú	gebdenáka
1 pl.	<i>ən</i>	gebno	jəbné	gebnú	gebnáka

32112. The suffixes, which correlate with tenses, are of various structures. With the exception of their first element they may be stated in terms of the seven term V system and the 29 term C system. For the first element different systems are required for each prosody, in accordance with the statement in § 233. This statement now requires further development.

In the first place, since in Aspect A the prosodies *z* and *y* are stated as the differentia between the two verb classes, and since the suffix is to be correlated with tense, it follows that the suffixes of the *z* prosodic verbs must be identified with those of the *y* prosodic verbs, and that, therefore, the first V elements of

¹ For the translations see the list at the end of the section.

the suffix of the one type of verb must exactly correspond with those of the other. In the phonological analysis, however, a three term system was established for *z* and a two term system for *y*. Morphologically a system of three terms, to cover both prosodies, is required, the correspondences being :—

<i>z</i>	e.g.	<i>y</i>	e.g.
ə	gebnədik	i	jəbínədik
ɐ	gebet	e	jəbét
o	gebo	e	jəbé

The complete paradigms of **gebnədik** and **jəbínədik**, **gebet** and **jəbét** are as follows ¹ :—

3 m., 1 m/f	gebnədik	jəbínədik	gebet	jəbét
3 f., 2 m/f	gebrənədik	jəbrínədik	gebret	jəbrét
3 pl.	gebnénədik	jəbínínədik	gebnét	jəbínét
2 pl.	gebdənénədik	jəbdínínədik	gebdenét	jəbdínét
1 pl.	gebnənədik	jəbnínədik	gebnét	jəbnét

In the second place vowel quality differentiates Aspect. Most of the tenses of Aspect A differ from those of Aspect B in phonematic as well as prosodic features, but for two pairs of tenses, the difference may be regarded as wholly prosodic ; the suffixes of the Aspect A tenses (which are either *z* or *y*) may be identified with those of the Aspect B tense (these are *a* and are identical for all verb classes). Thus the paradigms of **gebet** and **jəbét** (above) may be regarded as differing only in the prosodic features associated with their Aspect from that of **gebet** (or **jəbet**) ² :—

3 m., 1 m/f	gebet	jəbet
3 f., 2 m/f	gebret	jəbret
3 pl.	gebenét	jəbenét
2 pl.	gebdenét	jəbdenét
1 pl.	gebnét	jəbnét

This requires the recognition of the further morphological correspondence of terms in the first V system of the suffix—of *ɐ* in the *z* system and *e* in the *y* system with *ə* in the *a* system. (As has already been noted, there is no prosodic difference between the Aspect B tenses of the verbs of the class of **gebna** and those of the class of **jəbna**, and the endings of the paradigms of **gebet** and **jəbet** are identical in every respect. It will be sufficient in all later exemplification and analysis of Aspect B to refer only to the forms of **gebna**.)

There remain only two terms, the term *a* in the *a* prosodic system (the paradigm of **gebáka**) and the one term *u* in the *w* prosodic system. These have no morphological correspondence with any term in any other system.

¹ For **gebo** and **jəbé** see above.

² The translational difference between the paired tenses is one of past (Aspect A) and present or future (Aspect B). But such criteria are not used to establish Aspect, and it should be noted that **gebrá** (§ 3221) 'he will refuse' is of Aspect A.

In a complete statement of the morphological correspondences, five units are to be recognized for the first element of the suffix. These are to be symbolized by the Greek letters ι , η , ω , α , and υ , as set out in the table below :—

	z	y	α	w
ι	ə (gəbnədik)	i (jəbinədik)		
η	ɐ (gəbət)	e (jəbét)	ɐ (gəbət)	
ω	o (gəbo)	e (jəbé)		
α			a (gəbáka)	
υ				u (gəbú)

There is one partial paradigm, one of whose members belongs to a different Aspect from that of the others. For the verbs **gəbna** and **jəbna** the forms are :—

3 m.	gəbən	jəbín
3 f.	gəbrən	jəbrín
3 pl.	gəbinín	jəbinín
1 pl.	gəbnən	jəbnín

The third person masculine, third person feminine, and first person plural forms are all of Aspect A, z prosodic in the one paradigm and y prosodic in the other. But the third plural forms are of Aspect B. This is quite clear for two reasons. First, **gəbinín** is y prosodic; all Aspect A forms of **gəbna** are z prosodic, the distinction of z and y in Aspect A being one of the criteria for verb class, but Aspect B forms are y as well as α and w prosodic—the paradigm of **gəbék** is y prosodic throughout. Secondly, it has the prominence of an Aspect B form. This is not apparent from the paradigms of **gəbna**, since the prominence of the two Aspects is the same, but clearly illustrated from a Class II verb whose prominence pattern is (iv) for Aspect A, but (iii) for Aspect B :—

3 m.	tamən	
3 f.	tamrən	
3 pl.	tamínin	NOT * taminín
1 pl.	tamnən	

This is even more obvious for a verb whose stem differs according to its Aspect (cf. § 432—Aspect A stem **nəx-**, Aspect B stem **nak-**, and Class II) :—

3 m.	nəxən
3 f.	nəxrən
3 pl.	nakínin
1 pl.	nəxnən

3212. *Negative tenses.* The negative tenses are formally distinguished from the positive tense in that they have two infixes of which the first is -əg-.

For the two features that cannot be treated in terms of phonematic units it may be stated :—

(a) In Aspect B all tenses are α prosodic.

- (b) The prominence of forms of prominence pattern (iv) is of two kinds :—
either the prominent syllable is the syllable containing the phonematic unit *g* or, if this is unvowelled, the following syllable,
or the prominent syllable is the junction syllable ; this is restricted to two *y* prosodic paradigms.

32121. The second infix correlates with number-cum-gender and person, and is identical with the infix of positive tenses.¹

e.g.	Infixes	<i>z</i>	<i>y</i>	<i>a</i>
3 m., 1 m/f	3g + zero	gebǵét	jəbigét	gebegét
3 f., 2 m/f	3g + ər	gebǵérét	jəbigrét	gebegrét
3 pl.	3g + 3n	gebǵénét	jəbignét	gebegénét
2 pl.	3g + əd3n	gebǵédənét	jəbigdénét	gebegdénét
1 pl.	3g + ən	gebǵénét	jəbignét	gebegnét

32122. Most of the negative tenses can be paired with the positive tenses, and treated as having the same suffix. The three exemplified above correspond to the paradigms of *gebét* (*z*), *jəbét*, and *gebét* (*a*). Some of them have no corresponding positive tense. These are the paradigms of *gebǵi*, *gebǵid*, *gebǵin*, and *gebǵindu*. One of these is set out below :—

3 m., 1 m/f	gebǵi	jəbǵi	OR	jəbegi
3 f., 2 m/f	gebǵəri	jəbǵri		jəbegri
3 pl.	gebǵéni	jəbǵni		jəbegni
2 pl.	gebǵédəni	jəbǵdəni		jəbegdəni
1 pl.	gebǵéni	jəbǵni		jəbegni

The statement of the negative tenses raises two problems. First, the vowel quality of the first element of the ending of *gebǵi* is close front in *z* as well as *y* paradigms (*gebǵi* being *z* and *jəbǵi* being *y*). This does not correspond to the quality of any of the five units set up for the first element of the ending of the positive tenses. Either, therefore, yet a further unit is to be established, or the unit *i* is to be recognized here with partially different exponents, i.e. close front in both *z* and *y* paradigms. For economy the second alternative is adopted.

Secondly, the *y* prosodic paradigms are anomalous in three respects.

(i) The vowel quality prosody is to be referred only to the junction syllable and not to several elements of the ending as in the positive tenses, as is most clearly illustrated by the paradigm of *jəbigét* :—

3 m., 1 m/f	jəbigét	NOT	*jəbigét	cf.	jəbét
3 f., 2 m/f	jəbigrét		*jəbigrét		jəbrét
3 pl.	jəbignét		*jəbiginet		jəbínét
2 pl.	jəbigdénét		*jəbigdinet		jəbdínét
1 pl.	jəbignét		*jəbignét		jəbnét

In the *a* prosodic paradigm, on the other hand, it is clear that the prosody

¹ For the alternation of half close central and nil in *two* syllables see § 214. For the vowels of the *y* prosodic paradigm see below, this section.

is referred to all the elements of the infixes ; note especially the second person plural form **gebəgdénət** NOT ***gebəgdénət**.

(ii) There is, for all paradigms, an alternative form in which the quality of the V element of the junction syllable is half open central, instead of close front. This has been illustrated by the alternative paradigms of **jəbígi** and **jəbəgi**. If this element is stated as 3, it must be added that the exponent of 3 is close front *or* half open central in a *y* prosodic negative form.

(iii) For certain paradigms the prominence of forms of prominence pattern (iv) is different from that of all other negative paradigms ; as already stated, the prominent syllable is the junction syllable, instead of the syllable containing the unit *g* (or if this is unvoiced, the following syllable). An example of this is the paradigm of **jəbígi**, which is to be compared with that of **jəbigét**, but it is to be noted that for the alternative forms in which the quality of the vowel of the junction syllable is half open central (e.g. **jəbəgi**), the prominence is always of the more regular type.¹

A full list of the five member paradigms is set out below with the related Aspect A and Aspect B and the positive and negative tenses grouped together. All Aspect A tenses are *z* or *y* prosodic according to the verb class ; an example of a *z* prosodic verb is given. All Aspect B tenses are *a* prosodic except those marked with asterisks. All forms of prominence pattern (iv) have the first type of prominence (positive tenses, prominence in the second and third plural forms only ; negative tenses, prominence on the syllable containing *g*, or if unvoiced on the following syllable) except where marked with a dagger. The alternative negative forms (**jəbəgi**, etc.) are not listed.

Suffix	Aspect	Pos/neg.	e.g.	
ɿ n	A/B	pos.	gebən	let him refuse
ɿ nədi	A	pos.	gebənədi	(surprised) that he refused
ɿ nədik	A	pos.	gebənədik	if he refused
ɿ nədin	A	pos.	gebənədin	because he refused
ɿ	A	neg.	†gebgi	without refusing
ɿ d	A	neg.	†gebgið	if he had not refused
ɿ n	A	neg.	†gebgin	(ordered) not to refuse
ɿ ndu	A	neg.	†gebginðu	in order not to refuse
η t	A	pos.	gebet	(says) that he refused
		neg.	gebəgét	(says) that he did not refuse
	B	pos.	gebet	(says) that he refuses
		neg.	gebəgét	(says) that he does not refuse

¹ My informant preferred **jəbigét** to **jəbíget**, but **jəbigéx^w** to **jəbigéx^w**, though he accepted both. Similarly he preferred **jəbígi**, **jəbígid**, etc., to **jəbigí**, **jəbigíd**, etc., but he accepted only **jəbəgi**, etc., and not ***jəbégi**, etc.

<i>Suffix</i>	<i>Aspect</i>	<i>Pos/neg.</i>	<i>e.g.</i>	
η x ^w ¹	A	pos.	gebex ^w	which he refused
		neg.	†gebgéx ^w	which he did not refuse
	B	pos.	gebex ^w	which he refuses
		neg.	gebgéx ^w	which he does not refuse
η sɛna ²	A	pos.	gebesena	after he refused
	B	pos.	gebesena	just as he refused
η sɛnɛk	B	pos.	gebesɛnɛk	(make) him refuse
		neg.	gebgésɛnɛk	(make) him not to refuse
η n	B	pos.	†gebén	if he refuses
		neg.	gebgén	if he does not refuse
η k	B	pos.	†*gebék	he refused and . . .
ω	A	pos.	gebo	having refused
a ka	B	pos.	†gebáka	when he refused
u	B	pos.	†**gebú	while he refused

† Prominence pattern (iv) forms : negative tenses, prominent syllable is the junction syllable (*y* paradigms only); positive tenses, prominent syllable is the syllable containing the first element of the suffix, throughout the paradigm. * *y* prosodic. ** *w* prosodic.

322. *Seven member paradigms.* All the seven member paradigms except two (*a* *z* and *y* prosodic pair) are positive.³

3221. *Positive tenses.* For the features that are not statable in phonematic terms it is to be stated :—

(a) All Aspect B tenses are *a* prosodic.

(b) The prominence of forms of prominence pattern (iv) is to be stated separately for each paradigm.

Some of the forms in the paradigms, but never all the forms in a single paradigm, may be treated, as in the section on five member paradigms, in terms of infixes which correlate with number-cum-gender and person and suffixes which correlate with tense. This is illustrated by the following *z*, *y*, and *a* prosodic paradigms :—

	<i>z</i>	<i>y</i>	<i>a</i>	<i>Infix</i>	<i>Suffix</i>
3 m.	gebex ^w	jəbéx ^w	gebex ^w		
3 f.	gebreri	jəbréri	gebrerí		
2 m/f	gebrexər	jəbréxər	gebrexér	ər	η xər
1 m/f	gebuxər	jəbéxər	gebuxér	zero	η xər
3 pl.	gebew	jəbéw	gebéw		
2 pl.	gebdənəxər	jəbdinəxər	gebdənəxər	ədɜn	η xər
1 pl.	gebnəxər	jəbnəxər	gebnəxér	ən	η xər

¹ The forms subsumed under this have concord with the 'antecedent', in case as well as number-cum-gender. For details see the Appendix.

² An alternative form of the Aspect A tense is *gebosena*, etc. This would be treated as the unit ω (the *y* prosodic paradigm *jəbésena* may be treated as similar to *jəbét*, with η , or *jəbé*, with ω).

³ Some of these have 'negative' translations, but negative is defined formally in terms of the infix -ɜg-.

Four of the forms in each of these paradigms are analysable, as indicated, into one of the infixes already noted in § 32111 and a suffix. The remainder of the forms cannot be treated in the same way, except at the purely phonological level, where the features of vowel quality justify the interpretation of the endings of the third person masculine and third person plural forms as zero infix and suffix VC, and the endings of the third person feminine form as infix -ər- (the usual infix) and suffix VCV, the first unit of the suffix being η , as it is for the other members of the paradigm.

The prominence of pattern (iv) forms is unusual. In the *z* and *y* paradigms it is the pattern that is most common with the five member paradigms (the prominent syllable is the syllable containing the first element of the suffix throughout the *y* paradigm and in the second and third person plural forms only in the *z* paradigm), except in the case of the third person plural form of the *z* paradigm, which has no prominence. In the *a* paradigm, however, the final syllable is prominent in all forms except the third person masculine and the second person plural forms. In the case of the third person plural form, this could be treated as the usual pattern, since the final syllable is the syllable containing the first element of the suffix, were it not for the fact that the corresponding form in the *z* paradigm is without prominence. The third person masculine form is without prominence and in the second person plural form the syllable containing the first element of the suffix is prominent; this is in accordance with the usual pattern.

A very similar treatment is possible for another trio of paradigms; in fact, if the first person masculine/feminine and the first person plural forms are treated as having an additional suffix -ən, with (for prominence pattern (iv)) the final syllable prominent, analysis in terms of infix and suffix is possible for all the forms except one.

	<i>z</i>	<i>y</i>	<i>a</i>	<i>Infix</i>	<i>Suffix</i>
3 m.	gebəx ^w	jəblx ^w	gebək ^w	zero	ι x ^w
3 f.	gebti	jəbiti	gebeti		
2 m/f	gebərəx ^w	jəbríx ^w	gebək ^w	ər	ι x ^w
1 m/f	gebɪx ^w én	jəbix ^w én	gebək ^w én	zero	ι x ^w ən
3 pl.	gebɪnəx ^w	jəbɪnɪx ^w	gebənək ^w	ən	ι x ^w
2 pl.	gebɪdənəx ^w	jəbɪdɪnɪx ^w	gebɪdənək ^w	ədən	ι x ^w
1 pl.	gebɪnəx ^w én	jəbɪnɪx ^w én	gebɪnək ^w én	ən	ι x ^w ən

The paradigm of gebək^w is treated as differing prosodically only (Aspect B) from the other two (Aspect A) by making one further phonological and one further morphological statement.

(a) In the treatment of velar consonants a prosodic feature of tenseness/laxness (exponents plosion/friction) is to be recognized, tenseness being associated with Aspect B and laxness with Aspect A; this deals with the different consonants of the suffixes (x^w/k^w).¹

¹ This is also a feature of certain verb stems, cf. § 432. But note that it is not always a feature of the relation between Aspect A and Aspect B, as shown by the paradigms of gebəx^w (A) and gebək^w (B).

(b) The vowel quality correspondences half close central or nil in *z*, close front in *y*, and half open central in *a* require a development of the table set up in § 32112, such that a term in the *a* system that may be treated as *ɛ* is set up. For the seven member paradigms the table required is:—

	<i>z</i>	<i>y</i>	<i>a</i>
<i>ɛ</i>	ə (gubəx ^w)	i (jəbix ^w)	ɛ (gebək ^w)
η	ɛ (gubəx ^w)	e (jəbéx ^w)	ɛ (gubəx ^w)

The third person feminine form is unique. Its vowel qualities would permit interpretation in terms either of a suffix VCV or an infix VC and a suffix V.¹ For prominence pattern (iv) forms the final syllable is prominent, except for the *z* form which has no prominence.

Another trio of paradigms, while obviously to be grouped together, cannot without great complication be analysed into infix and suffix. It is sufficient merely to quote them. The prominent syllable of prominence pattern (iv) forms is, in all cases, the final syllable.²

3 m.	geblá	jəbilá	gebəlá
3 f.	gebellá	jəbillá	gebəlá
2 m/f	gebellá	jəbillá	gebəlá
1 m/f	gebli	jəbili	gebəli
3 pl.	gebənní	jəbinní	gebənní
2 pl.	gebənní	jəbinní	gebənní
1 pl.	gebənní	jəbinní	gebənní

Finally there are six tenses which bear no resemblance to the five member paradigms, but which can be largely analysed in terms of infix and suffix. They are all Aspect A tenses; there is, therefore, a *z* and a *y* paradigm for each.

The infixes with examples from two pairs of paradigms are as follows:—

	<i>Infix</i>	<i>z</i>	<i>y</i>	<i>z</i>	<i>y</i>
3 m.	ɜr	gebrá	jəbira	gebró	jəbíro
3 f.	(ɜt)	gebtéri	jəbíteri	gebtó	jəbíto
2 m/f	ɜt	gebtá	jəbíta	gebtó	jəbíto
1 m/f	—	gebrí	jəbíri	gebíya	jəbíya
3 pl.	ɜdɛn	gebdéna	jəbídena	gebdéno	jəbídeno
2 pl.	ɜtɛn	gebténa	jəbítena	gebténo	jəbíteno
1 pl.	ɜn	gebná	jəbína	gebnó	jəbíno

Analysis into infix and suffix is not possible for the first person masculine/feminine forms, and for the third person feminine form in the first two paradigms.

¹ i.e., so that the V element of the junction syllable is either *ɜ* or the unit *ɛ*. The exponents are the same—half close central or nil in *z* and close front in *y*. Their exponents differ, however, for the verbs treated in § 42, the exponent of *ɜ* being half close central and of *ɛ*, close front (*z* prosodic only); but this does not assist in the decision, since forms of both the type *fəti* (*ɜ*) and *fiti* (*ɛ*) are attested for this class of verbs.

² Some integration of these paradigms with the others may be achieved if special statements are made about the junction of the alveolar and dental 'liquids' *r*, *n*, and *l*.

It will be noted that the prosody of vowel quality is a feature of the junction syllable only. There is no need, therefore, to state the suffixes in terms of the prosodies. In addition to those illustrated (-a and -o) the suffixes are -asik, -or, -ota, and -əd. All the forms of these paradigms may be interpreted in terms of infix and suffix, with the exception of the first person masculine/feminine forms which are (for *gebna*) *gebrisik*, *gebiyer*, *gebiyeta*, and *gebrid* respectively.

The prominence of prominence pattern (iv) forms is, in all cases, the junction syllable, or, where this is unvowelled, the syllable following the junction syllable.

3222. *Negative tenses.* There is one pair of negative tenses only. These differ from the corresponding positive tenses only in the infix -ag-. The prominence of prominence pattern (iv) forms, and the features of vowel quality that are peculiar to the *y* paradigm are as stated for the negative five member paradigms (§ 32122).

3 m.	<i>gebgéx^w</i>	<i>jəbigéx^w</i>	<i>gebəgéx^w</i>
3 f.	<i>gebgéreri</i>	<i>jəbigreri</i>	<i>gebəgrəri</i>
2 m/f	<i>gebgérexər</i>	<i>jəbigrexər</i>	<i>gebəgréxər</i>
1 m/f	<i>gebgéxər</i>	<i>jəbiguxər</i>	<i>gebəgéxər</i>
3 pl.	<i>gebgéw</i>	<i>jəbigəw</i>	<i>gebəgéw</i>
2 pl.	<i>gebgédənəxər</i>	<i>jəbigdənəxər</i>	<i>gebəgdənəxər</i>
1 pl.	<i>gebgénəxər</i>	<i>jəbignəxər</i>	<i>gebəgnəxər</i>

The full list of the tenses handled in this section is given below. The first six may be partly treated in terms of suffix (as stated) and the infixes stated for the five member paradigms. The last six may also be treated in terms of suffix and the infixes peculiar to these tenses, with the exception of the first person masculine/feminine forms, and, in the case of *gebrá* only, the third person feminine form.

<i>Suffix</i>	<i>Aspect</i>	<i>Pos/neg.</i>	<i>e.g.</i>	
x ^w /k ^w	A	pos.	<i>gebəx^w</i>	he refused
	B	pos.	<i>gebək^w</i>	he refuses
xər ¹	A	pos.	<i>gebəx^w</i>	who refused
		neg.	<i>gebgéx^w</i>	who did not refuse
	B	pos.	<i>gebəx^w</i>	who refuses
		neg.	<i>gebəgéx^w</i>	who does not refuse
none	A	pos.	<i>geblá</i>	he did not refuse
	B	pos.	<i>gebelá</i>	he does not refuse
a	A	pos.	<i>gebrá</i>	he will refuse
asik	A	pos.	<i>gebrásik</i>	until he refuses
əd	A	pos.	<i>gebrəd</i>	he would refuse
o	A	pos.	<i>gebró</i>	(begins) to refuse
or	A	pos.	<i>gebrór</i>	in order to refuse
ota	A	pos.	<i>gebróta</i>	for refusing

¹ The forms subsumed under this have concord in number-cum-gender with the 'antecedent'. For details see the Appendix.

These are five forms not set out in the paradigms of either section. First there is the 'infinitive' form which has often been referred to; this has an ending -na, and is of Aspect B as shown by its prominence and its identity in terms of vowel quality for all verb classes (e.g. a Class II verb, *támna*).

Secondly there are four 'imperative' forms, two positive and two negative. These are all of Aspect A and (for a *z* and a *y* verb) are as follows:—

(2) m/f	pos.	gebi	jəbi
(2) pl.	pos.	gebá	jəba
(2) m/f	neg.	gebəg	jəbəg
(2) pl.	neg.	gebǵá	jəbəǵá

The prominence of the prominence pattern (iv) forms is unusual. In the positive forms, the *z* forms have the final syllable prominent, but the *y* forms have no prominence (the reverse of the *z/y* relation elsewhere). The negative forms are not unusual; the forms **gebəg** and **jəbəg** have no prominence, but ***gebəǵ** and ***jəbəǵ** would not be in accordance with the usual pattern of the negative forms; the junction syllable is never the prominent except in the forms **jəbígi**, etc. (but not in **jəbəgi** or **geɲəgi**).

4. There are three types of verb that require a slightly different statement:

- (a) verbs for which the term of the final C of the stem is *r*, *l*, or *n* (§ 41),
- (b) verbs whose stem is C (§ 42),
- (c) verbs whose stem has two forms, one for each Aspect (§ 43).

41. For verbs for which the term of the final C of the stem is *r*, *l*, or *n*, a feature of consonant junction is to be noted. In all the forms in which the junction syllable is unvoiced, and there is, therefore, a (phonetic) consonant cluster, whenever the second consonant is for all other verbs a voiced alveolar trill, for these verbs it is a voiced dental plosive.

e.g. gebrek^w	she refuses	BUT ferdek^w	she goes
gebren	if she refuses	q^waldən	if she sees
gebrá	he will refuse	gendá	he will grow old

The simplest treatment of these forms is to state that, for the verbs of this type, the exponent of *r*, when it is the first C element of the ending, and when the junction syllable is unvoiced, is a voiced dental plosive.

Two other forms must be noted, the third person feminine or second person masculine/feminine of the paradigm of **geblá**, and the first person masculine/feminine of the paradigm of **gebrá**:—

gebellá	she/you did not refuse	ferdellá	she/you did not go
gebiya	I will not refuse	ferdiya	I will not go

42. For verbs whose stem is C, certain of the vowel qualities of the first syllable differ from those stated. The simplest statement of this is to treat these as different exponents of the V elements of the endings in the junction syllable (which is the word-initial syllable) only. All verbs of this type are *z* prosodic in Aspect A. The exponents for the V elements which occur in the

junction syllable are stated below, first for a verb of the pattern of *gebna*, and secondly for a verb such as *fəna* whose stem is C.

<i>Prosody</i>	<i>Unit</i>		e.g.		e.g.
z	ɪ	half close cen./nil	gebəx ^w	close front	flx ^w
z	ɤ	half open cen.	gebet	half close front	fet
z	ɔ	half close back	gebo	half close front	fe
z	ə	half close cen./nil	gebno	half close cen.	fəno
z	ɜ	half close cen./nil	gebnó	half close cen.	fəno
a	ɪ	half open cen.	gebək ^w	open front	fak ^w
a	ɤ	half open cen.	gebet	open front	fat
a	ɑ	open front	gebáka	open front	fáka
a	ə	half close cen./nil	gebnáka	half close cen.	fənáka
a	ɜ	half open cen.	gebenáka	open front	fanáka
w	ʊ	close back	gebú	close back	fú
w	ə	half close cen./nil	gebnú	half close cen.	fənú
w	ɜ	close back	gebunú	close back	funú
y	ɤ	half close front	gebék	half close front	fék
y	ə	half close cen./nil	gebnék	half close cen.	fənék
y	ɜ	close front	gebinék	close front	finék

It is important to note that these V elements have these different exponents *only* in the junction syllable; elsewhere they have the same exponents as those of *gebna*. This may be shown by the complete paradigm of *fet* (*gebet* Aspect A) and *fat* (*gebet* Aspect B).

3 m., 1 m/f	fet	fat
3 f., 2 m/f	fəret	fəret
3 pl.	fənét	fanét
2 pl.	fədenét	fədenét
1 pl.	fənət	fənət

43. Verbs whose stems have two forms, one for each Aspect, are of three kinds.

431. For *ʔəntərna* 'to come' and *ʔərérna* 'to find' the Aspect B stem has the elements -*er*- which are absent from the Aspect A stem. The paradigms corresponding to *gebet* (Aspect A) and *gebet* (Aspect B) illustrate this:—

3 m., 1 m/f	ʔəntət	ʔəntərət
3 f., 2 m/f	ʔəntəret	ʔəntərdet
3 pl.	ʔəntənét	ʔəntərənet
2 pl.	ʔəntədenét	ʔəntərdenet
1 pl.	ʔəntənət	ʔəntərnət

Both verbs are of Class II and in Aspect B are of the type considered in § 41.

432. For *nákna* 'to give', *fakna* 'to take', and *ʔakna* 'to be', the two stems differ in vowel quality and in the feature of laxness and tenseness of the final (velar) consonant. The Aspect A stems are *nəx*-, *fəx*-, and *ʔəx*- respectively,

and the Aspect B stems *nak-*, *jak-*, and *ʔak-*. All three verbs are of Class II. The two paradigms used for illustration are :—

3 m., 1 m/f	nəxet	nakét
3 f., 2 m/f	nəxret	nákrét
3 pl.	nəxnét	nakénét
2 pl.	nəxdənét	nákdénét
1 pl.	nəxnet	náknet

433. For *naqsəna*, the two stems differ only in vowel quality—Aspect A *nəqs-* and Aspect B *naqs-*. The verb is of Class IV.

3 m., 1 m/f	nəqset	náqset
3 f., 2 m/f	nəqsəret	náqsəret
3 pl.	nəqsənét	náqsənét
2 pl.	nəqsədənét	náqsədənét
1 pl.	nəqsənət	náqsənət

5. The other themes of the verb differ from the Simple Active in three ways :—

- (i) in the vowel quality prosody,
- (ii) in their prominence pattern,
- (iii) syllabically, in that the stem has additional phonematic elements.

For (i) a simple rule may be stated. The vowel quality prosodies are the same as those of the Simple Active, *except* that where the final element of the stem of the other theme ends with *ŋ* (the Reciprocals and one type of the Frequentatives) the Aspect A tenses are *y* prosodic irrespective of the prosody of the Simple Active.

e.g. **q^walex^w** BUT **q^waləstəŋix^w** (Reciprocal)
q^waləstəx^w (Passive) **q^walələŋix^w** (Frequentative Active)

For (ii) no general rule may be stated, but it may be noted that the prominence pattern of many of the themes of the verbs is exactly as it would be if the additional elements of the stem were treated as elements of the ending. Thus for *támna* (Class II) the prominence pattern is type (iv) for Aspect A, and type (iii) for Aspect B. For *taméstəna* it is again type (iv) for Aspect A, since for type (iv) the prominence is determined by the infix and suffix. For Aspect B the last complete syllable of the stem (*taməst-*) is prominent throughout; this marks it as prominence pattern (i); but if the stem were again stated as *tam-* instead of *taməst-*, the prominent syllable is the junction syllable, which indicates that the pattern is either (ii) or (iii) (it could be either since the junction syllable is always vowelised). Unfortunately this observation cannot be made into a rule; for the causative *tamísna* the Aspect A tenses are of pattern (iv) again as might be expected, but the Aspect B tenses are not of pattern (i), but of pattern (iii) (e.g. *tamístək^w*, *tamísrek^w*, etc.).

Further than this no general observations may be made. The tables below set out the most common types of additional elements and the prominence patterns associated with them. This requires the recognition of a further

type of prominence pattern—(v), in which the prominent syllable is the second of the syllables preceding the junction syllable. Where the prominence is of a type other than that which could be predicted, in accordance with the observation above, this is indicated by an asterisk.

51. *Simple Passive*. The additional elements of the stem are of two kinds (a) -əst-, (b) -s-. (a) is more common with verbs whose Simple Active stem is CVC or CVCC, (b) with all others.

<i>Simple Active</i>		<i>Simple Passive</i>		e.g.	
<i>Class</i>	<i>Prom. A</i>	<i>Prom. B</i>			
(a) I	iv	iv	gebna	refuse	gebestena
II	iv	i	támna	taste	taméstena
III	i	i	bárna	leave	baréstena
			ʔerʔóna	know	ʔerʔéstena
VII	iv	iv	jəbna	buy	jəbestena
VIII	i	i	kʷədɣəna	discuss	kʷədɣéstena
IX	v	v	gáɣna	run	gáɣstena
(b) II	iv	i	qerəcna	cut	qerəcəna
III	ii/iii	i	wənqérna	ask	wənqərsəna
VI	i	i	jənqʷəlqʷəlna	tickle	jənqʷəlqʷəlsəna
VII	iv	iv	bənnə	divide	bənsəna
VIII	i	i	wəfábna	play	wəfábsəna

52. *Simple Causative*. The additional elements are of three types: (a) -is-, (b) -əd- or -d-, (c) -s-. (b) is common only with verbs of Classes II and VIII with a Simple Active stem CVCVC, and with verbs of Class I with a Simple Active stem CVCC with a pharyngeal consonant as the term of the last C system. (c) is phonologically identical with one of the elements of the Simple Passive, but the two themes may be clearly differentiated on syntactical grounds. (The headings are not repeated.)

(a) I	iv	*iii	qʷalna	see	qʷalísna
II	iv	*iii	támna	taste	tamísna
III	i	i	bárna	leave	barísna
VI	v	v	jəfjəfna	thresh	jəfjəfísna
VII	iv	*iii	jəbna	buy	jəbísna
VIII	i	i	təkna	seem	təkísna
(b) I	iv	*iii	fərhəna	be happy	fərhédna
II	iv	i	ləfəkna	follow	ləfəkdəna
VI	i	i	kəyáwna	be ugly	kəyáwdəna
VIII	i	i	wəfábna	play	wəfábdəna
(c) I	iv	iv	dəkʷna	pass	dəkʷsəna
VII	iv	iv	gabna	say	gabsəna
IX	i	i	gáɣna	run	gáɣsəna

53. *Reciprocal*. The additional elements are -əŋ- (all are *y* prosodic in Aspect A) in addition to those of the Simple Passive.

(a) I	*iii	*iii	q ^w alna	see	q ^w aləstəŋna
II	*iii	*iii	gəbna	shut in	gebəstəŋna
III	v	v	barna	leave	barəstəŋna
			ʔərʔəna	know	ʔərʔəstəŋna
VII	*iii	*iii	jəbna	buy	jəbəstəŋna
VIII	v	v	k ^w ədŋəna	discuss	k ^w ədŋəstəŋna
(b) II	*v	v	wəkkəna	offer	wəkkəstəŋna
III	*v	v	wənqəna	ask	wənqəstəŋna
VI	v	v	jənq ^w əlq ^w əlna	tickle	jənq ^w əlq ^w əlstəŋna
VII	*iii	*iii	bəna	divide	bəstəŋna
VIII	v	v	ʔənq ^w arna	laugh	ʔənq ^w arstəŋna

54. *Reciprocal Causative*. The additional elements are again -əŋ-, in addition to those of the Simple Causative; only forms of type (a) (with -is-) were recorded.

I	*iii	*iii	q ^w alna	see	q ^w alisəŋna
III	v	v	barna	leave	barisəŋna
VII	*iii	*iii	jəbna	buy	jəbisəŋna
VIII	v	v	ʃiwna	beg	ʃiwisəŋna

55. *Frequentative Active*. Part of the stem of the Simple Active is repeated. There are two possibilities:—

(a) The final element of the stem is repeated, and preceded by ə; in this case there is the additional element -əŋ-. (All Aspect A tenses are *y* prosodic.)

(b) The last *complete* syllable of the stem is repeated.

(a) is the pattern for all verbs whose Simple Active stem is CVC or CVCC, and (b) is more common for all others. The prominence of all (a) is pattern (iii); the prominence of (b) is the same as that of the corresponding Simple Active forms.

(a) I	*iii	*iii	q ^w alna	see	q ^w alələŋna
II	*iii	*iii	támna	taste	taməməŋna
III	*iii	*iii	barna	leave	barərəŋna
VII	*iii	*iii	jəbna	buy	jəbəbəŋna
VIII	*iii	*iii	ləxna	insult	ləxəxəŋna
(b) II	iv	iii	qərəcna	cut	qərərəcna
III	ii	iii	wənqəna	ask	wənqəqəna
			ʔəkəbna	gather	ʔəkəkəbna

56. *Frequentative Passive* and *Frequentative Causative*. These are rare. Where the Frequentative Active stem is of type (a), they have the elements -əst- and -is- respectively in addition to this stem, with prominence pattern (i) only. Where the Frequentative Active stem is of type (b), the other Frequentative stems are exactly the same as those of the corresponding Simple forms (including prominence) with the exception of the repeated syllable.

(a) I	*i	*i	q ^w alna	see	q ^w aleleqéstena
	*i	*i			q ^w aleleqísana
(b) II	iv	i	qurcna	cut	qurercsena
	iv	*iii			qurercísana

57 A special statement is necessary for verbs whose Simple Active stem is C (§ 42). For fəna 'go out' the pattern is as follows:—

Theme	Prom. A	Prom. B	
Simple Passive	iv	iv	fəstəna
Simple Causative	iv	*iii	fédna
Reciprocal	*iii	*iii	fəstéqna
Reciprocal Causative	*iii	*iii	fədədénna

Several other verbs follow this pattern. But the passive forms of bəna 'to be without' and q^wəna 'to eat' are bistəna (Prom. iv, iv) and q^wístəna (Prom. ii, i) and the Causative forms of kəna 'to spend the night', gəna 'to become ripe', and q^wəna are kəsna (Prom. iv, iii), gísna (Prom. iv, iii), and q^wísna (Prom. ii, iii) respectively.

58. There are many pairs of verbs, the one transitive, the other usually intransitive, that differ only in the final consonant of the stem. While the intransitive form could be identified with the Passive theme, there appear to be no formal grounds for deciding whether the transitive form is to be treated as Active or Causative. The prosodic features of the members of each pair are identical. Some examples are listed below.

II	waxítna	quarrel	waxísna	make to quarrel	(t/s)
VII	kəxántəna	marry (man)	kəxánsəna	marry (woman)	(t/s)
IV	fəx ^w ístəna	be in pain	fəx ^w ísdəna	make to suffer	(t/d)
V	səxántəna	pity	səxándəna	cause to pity	(t/d)
IV	fəkkérsəna	be surprised	fəkkérdəna	surprise	(s/d)
VI	kərkérsəna	be crucified	kərkérdəna	crucify	(s/d)
IV	fəməqərna	be dirty	fəməqdəna	make dirty	(r/d)
I	fərna	go	fərna	send	(r/s)

APPENDIX

(cf. n. 1, p. 149, and n. 1, p. 152)

The forms subsumed under *gebex^w* 'which he refused', etc. (§ 321) and *gebex^w* 'who refused', etc. (§ 322) have concord in number-cum-gender and case with the nominal which, in traditional terms, is the 'antecedent of the relative'.

In the case of the latter, the number-cum-gender concord is stated in the paradigms set out in § 322, since the antecedent is the 'subject' of the verb. In the case of the former the number-cum-gender concord is not stated in the

paradigms set out in § 321, since the antecedent is the 'object' of the verb, but by a difference in the suffix; instead of -x^w (masc.) the final elements of the suffix are -ri (fem.) and -w (pl.):—

3 m., 1 m/f	gebex ^w	geberi	gebew
3 f., 2 m/f	gebrax ^w	gebreri	gebrew etc.

The case endings are illustrated by the following table. The second column is typical of the feminine forms, and the first column of all others (for forms of both types—those of both § 321 and § 322). It should be noted that in the case of the 'possessive' there is still further concord in number-cum-gender, if the noun with which these forms agree follows the noun on which it, in turn, depends.

subject		gebex ^w	gebreri
object		gebex ^w si	gebrerit
'with'		gebex ^w di	gebreridi
'to'		gebex ^w éd	gebrerisi
'of' (preceding noun)		gebex ^w éd	gebrerir
(following masc. noun)		gebex ^w déx ^w	gebreriréx ^w
(following fem. noun)		gebex ^w déri	gebreriréri
(following plur. noun)		gebex ^w déw	gebreriréw
'because of'		gebex ^w déx ^w éd	gebreriréx ^w éd
	OR	gebex ^w déwéd	gebreriréwéd
'towards'		gebex ^w li	gebreritél
'from'		gebex ^w léd	gebreritéled

In addition there are different forms of the subject, when the verbal form precedes the noun with which it agrees. These are, for the third person masculine, feminine, and plural forms only of gebex^w (§ 322), geba, gebra, and geba (or for jebna, jebé, jébré, and jebé), and for the paradigms of gebex^w (z), jebéx^w and gebex^w (a) (§ 321):—

3 m., 1 m/f	geba	jebé	geba
3 f., 2 m/f	gebra	jébré	gebra
3 pl.	gebná	jébiné	gebná
2 pl.	gebdená	jébdiné	gebdená
1 pl.	gebna	jébné	gebna