SOME ASPECTS OF THE KERA VERBAL SYSTEM*

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1. Kera Tenses

In this section I present a short summary of Kera tenses in order to give a framework for discussion of three topics relevant to comparative research in the Chadic verbal system: final vowel classes (2.1), tone classes (2.2), and aspects (2.3).

Kera has four tense formations derived from the stem\(^1\) of the verb (cf. (1) below):

**Basic aspect**: stem + \{e / i / pronoun suffix\} + H\(_a\)

- H\(_a\) = a high tone realized on the last syllable if there is
  - (a) no pronominal suffix,
  - (b) a 3rd person pronominal suffix functioning as a direct object

Mid tone of the stem is assimilated to a following high tone, e.g. fal- + è --> féle;\(^2\) a high suffix is assimilated to a low stem if preceded by a sonorant, e.g. hàm- è --> hàmè.

**Past**: stem + /n/ (+ pronoun suffix) + H\(_a\)

- /n/ = n in final position, η elsewhere. Tone patterns are the same as in the basic aspect.

**Perfective**: stem + /n/ (+ pronoun suffix) + né

- /n/ is realized as in the past tense.

**Optative**: stem (+ pronoun suffix) + /la/

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\*Kera is a Chadic language of the Eastern subbranch, spoken in the region of Fianga in Southern Chad. My work on Kera was supported by the Deutsche Forschungsgemeinschaft as part of the project "Erforschung der tschado-hamitischen Sprachen in der Republik Tschad" under the direction of H. Jungraithmayr.

\(^1\)By stem I understand a hypothetical underlying form from which all tenses can be derived.

\(^2\)For details of vowel and tone assimilation as well as for tense formation see Ebert [in preparation].
/la/ takes the tone of a directly preceding stem. Following a definite marker, /la/ is mid; following an object without a definite marker, /la/ is high.

The rest of the tenses are composed of these four with the help of particles. I shall not go into details here, as these forms have no relevance for the following discussion (see Ebert [in preparation]). For the formation of the progressive and the verbal noun, see 2.3.

<table>
<thead>
<tr>
<th>(1)</th>
<th>Tone pattern 1</th>
<th>2a</th>
<th>2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM</td>
<td>fal- 'find'</td>
<td>gus- 'buy'</td>
<td>ham- 'eat'</td>
</tr>
<tr>
<td>CITATION FORM</td>
<td>félé</td>
<td>gúsí</td>
<td>hàmè</td>
</tr>
<tr>
<td>BASIC ASPECT</td>
<td>félé</td>
<td>gúsí</td>
<td>hàmè</td>
</tr>
<tr>
<td></td>
<td>+ 3rd m.</td>
<td>gúsú</td>
<td>hàmù</td>
</tr>
<tr>
<td></td>
<td>+ 2nd m.</td>
<td>gúsûm</td>
<td>hàmàm</td>
</tr>
<tr>
<td>PAST</td>
<td>féláŋ</td>
<td>gúsúŋ</td>
<td>hàmàŋ</td>
</tr>
<tr>
<td></td>
<td>+ 3rd m.</td>
<td>gúsñú</td>
<td>hàmnù</td>
</tr>
<tr>
<td></td>
<td>+ 2nd m.</td>
<td>gúsñûm</td>
<td>hàmnàm</td>
</tr>
<tr>
<td>PERFECTIVE</td>
<td>felaŋ-ne</td>
<td>gúsùŋ-ne</td>
<td>hàmàŋ-ne</td>
</tr>
<tr>
<td></td>
<td>+ 3rd m.</td>
<td>gúsñú-ne</td>
<td>hàmnù-ne</td>
</tr>
<tr>
<td></td>
<td>+ 2nd m.</td>
<td>gúsñûm-ne</td>
<td>hàmnàm-ne</td>
</tr>
<tr>
<td>OPTATIVE</td>
<td>fal-la</td>
<td>gus-la</td>
<td>hàm-la</td>
</tr>
<tr>
<td></td>
<td>+ 3rd m.</td>
<td>gus-lá</td>
<td>hàm-lá</td>
</tr>
<tr>
<td></td>
<td>+ 2nd m.</td>
<td>gusûm-lá</td>
<td>hàmàm-lá</td>
</tr>
<tr>
<td>PAST II</td>
<td>a féláŋ</td>
<td>a gusúŋ</td>
<td>a hàmàŋ</td>
</tr>
<tr>
<td>PERFECTIVE II</td>
<td>a felán-ne</td>
<td>a gusùŋ-ne</td>
<td>a hàmàŋ-ne</td>
</tr>
<tr>
<td>OPTATIVE II</td>
<td>a fal-la/</td>
<td>a gus-là/</td>
<td>a hàm-là/</td>
</tr>
<tr>
<td></td>
<td>a sá fal-la</td>
<td>a sá gus-là</td>
<td>a sá hàm-là</td>
</tr>
<tr>
<td>NEG. OPTATIVE</td>
<td>a fél là</td>
<td>a gus(l) là</td>
<td>a hàm là</td>
</tr>
<tr>
<td>SUBJUNCTIVE</td>
<td>(á) sá félé</td>
<td>(á) sá gúsí</td>
<td>(á) sá hàmè</td>
</tr>
<tr>
<td>FUTURE</td>
<td>bə félé/</td>
<td>bə gúsí/</td>
<td>bə hàmè/</td>
</tr>
<tr>
<td></td>
<td>fél yan</td>
<td>gus(l) yan</td>
<td>hàm yan</td>
</tr>
<tr>
<td>PROGRESSIVE</td>
<td>bə félé</td>
<td>bə gúsí</td>
<td>bə hàmè</td>
</tr>
<tr>
<td>VERBAL NOUN</td>
<td>félé</td>
<td>gúsí</td>
<td>hàmè</td>
</tr>
</tbody>
</table>
2. Kera Verbs and the Proto-Chadic Verbal System

Newman [1975:66] makes the following claims concerning the Proto-Chadic verbal system:

- "All verbs contained a final vowel as an integral, lexically determined component. . . ."
- "Polysyllabic verbs occurred with two and only two final vowels, these being -a and -ə."
- "Verb tone was also lexically specific and not grammatical or derivative."

Newman shows how these traits are reflected in the verbal system of present day languages of the Biu-Mandara and Plateau-Sahel branches. No evidence has been adduced so far from the Eastern subbranch of Chadic to support Newman's hypothesis.

I shall first look at final vowels in Kera and then at tone patterns.

2.1. Final vowels. Kera has two final vowels in the basic aspect and citation form, but contrary to the languages described by Newman they are predictable as illustrated in (2):

(2) Stem vowels e, a, o take final vowel e
    ɓeer- ɓeerɛ́ 'hunt'
    hám- hámɛ́ 'eat'
    kol- kolɛ́ 'change'

Stem vowels i, ə, u take final vowel i
    mirg- mirɡí 'greet'
    hɑrg- hɑrgí 'dance'
    gus- gusí 'buy'

The predictability holds for monosyllabic verbs, too, where the stem vowel is replaced by e/i:

(3) hàa- hà 'take'
    saa- sé 'drink'
    ɗe- ɗé 'go'
    kuu- kf 'burn'
    bàə- bl 'come'

/e/ can be assumed to be the underlying final vowel; the vowel harmony rule changes a non-high vowel to high in the environment of a high vowel.

There are thus no final vowel classes in present-day Kera. This does not, however, contradict Newman's hypothesis. Kera e/i may have developed from Proto-Chadic a/ə. In fact some arguments can be given in favor of such an explanation.
(a) If e/i goes back to Proto-Chadic a/e, the stem vowel must have been assimilated to the final vowel at some stage of the development. Regressive assimilation to final vowels is still traceable in part of the system:

(4) fal- + é --> félé 'find'
    bàl- + é --> bèlè 'love'
(5) ñad- + í --> ñdí 'change'
    bàŋ- + í --> bàŋí 'open'
(6) jò?- + é --> jò?é/jè?é 'sow'
    bù?- + í --> bù?í/bì?í 'spoil'

In an open syllable, a is assimilated to final e except after h and ?; ñ in an open syllable is regularly assimilated to final í; o and u optionally assimilate to final e and í respectively before ?.

(b) Regressive assimilation is common elsewhere in the verbal system. The vowel harmony rule changes any non-high vowel to high in the environment of a high vowel.

(7) fal- + ú --> félú 'finds him'
(8) ñad- + i --> ñídi 'changes you (f)'
(9) herd- + í --> hírdí 'eats them (uncooked things)'

(c) Final vowels in Kera have—as is supposed for Proto-Chadic—no semantic correlate; they are not determined by syllable structure, as final vowels of nominals are.

It is not unlikely that Kera final vowels e/i, although now completely predictable from the stem vowel, developed from Proto-Chadic a/e with assimilation of the stem vowel. But as we lack comparative material from closely related languages, no more can be said at the moment.

2.2. Tone patterns. Most languages of the Eastern Chadic group seem to distinguish—like the languages studied by Newman—two tonal verb classes. Kera verbs exhibit the following tone patterns (for examples, see (1)):

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>MM</td>
<td>LL</td>
</tr>
<tr>
<td>B</td>
<td>HH</td>
<td>LH</td>
</tr>
<tr>
<td>C</td>
<td>HH</td>
<td>LH</td>
</tr>
</tbody>
</table>
The A-forms are basic; high tones in B and C-forms are due to suffixes.

B-forms: basic aspect and past 1. without pronominal suffix
        2. with a 3rd person pronominal suffix in the function of a direct object.

C-forms: verbal noun and progressive

A-forms: all others.

The tone pattern which a verb follows is to a large extent predictable from initial consonants:

\[ C_1 = \begin{cases} \{[-\text{voice}]\} & \text{pattern 1} \\ \{ [+\text{sonorant}] \} & \text{pattern 2b} \\ \{ [+\text{voice}] \}, \{ [-\text{sonorant}] \} & \text{elsewhere} \end{cases} \]

\[ C_1 = h \]

not predictable

Examples:

(10) pattern 1

\[
\begin{align*}
\text{dég}- & \quad \text{dég}^i \quad \text{'think'} & \quad \text{dégán} & \quad \text{'thought'} \\
\text{yaak}- & \quad \text{yáaké} \quad \text{'let'} & \quad \text{yéekúnú} & \quad \text{'let him'} \\
\text{taar}- & \quad \text{táaré} \quad \text{'assemble'} & \quad \text{táeríní} & \quad \text{'assembled them'}
\end{align*}
\]

(11) pattern 2b

\[
\begin{align*}
\text{gün}- & \quad \text{gün}^i \quad \text{'wake up'} & \quad \text{gün}^u & \quad \text{'woke up'} \\
\text{bèl}- & \quad \text{bèlè} \quad \text{'love'} & \quad \text{bèlnú} & \quad \text{'loved him'} \\
\text{där}- & \quad \text{dérè} \quad \text{'put on'} & \quad \text{därn} & \quad \text{'put them on'}
\end{align*}
\]

(12) pattern 2a

\[
\begin{align*}
\text{jèbr}- & \quad \text{jèbré} \quad \text{'listen'} & \quad \text{jèbrén} & \quad \text{'listened'} \\
\text{dèf}- & \quad \text{dèfé} \quad \text{'prepare sauce'} & \quad \text{dèfnú} & \quad \text{'prepared it'} \\
\text{gls}- & \quad \text{gls}^i \quad \text{'shut'} & \quad \text{gls}^i & \quad \text{'shut them'}
\end{align*}
\]

(13) initial h-

\[
\begin{align*}
\text{hom}- & \quad \text{hómé} \quad \text{'repeat'} & \quad \text{(pattern 1)} \\
\text{hàm}- & \quad \text{hàmè} \quad \text{'eat'} & \quad \text{(pattern 2b)} \\
\text{hèd}- & \quad \text{hèdè} \quad \text{'cut straw'} & \quad \text{(pattern 2a)}
\end{align*}
\]

Kera verbs can thus be described in a 2-tone system:
Always realized **high**.

Realized **low** after initial voiced C, **mid** elsewhere.

Exceptions occur in a few low tone verbs with initial s and f, which can be diachronically explained as the result of the devoicing of fricatives. Initial h in low tone verbs seems to have developed from a voiced consonant, too (cf. hàmè 'eat', where the Chadic root is reconstructed by Newman and Ma [1966] as *z-m-, e.g. Tera zemæ, Kotoko zimi). All verbs in Kera are **/–H/**; the feature [+L] is assigned to verbs with initial voiced consonant. For verbs with initial h- and the exceptions with initial s and f the feature [+L] has to be marked in the lexicon.

Thus, there are no **lexical tone classes of verbs** in Kera. Predictability of verb tone has also been noticed in neighboring languages from the Masa group such as Zime and Lame as well as for Ngizim and Bade from the Plateau-Sahel group. The widespread predictability of verbal tone indicates that verbal tone classes are not a common Chadic phenomenon and that the reconstruction of Proto-Chadic tone classes has to be reconsidered.

### 2.3. Aspects

It has been demonstrated by Jungraithmayr in several publications that a great number of Chadic languages distinguish an imperfective and a perfective aspect stem. The imperfective, usually describing incompleted or durative action, is marked by apophony or at a later stage of development by vowel suffixation (stage II) or by **tone** (stage III) (see, for example, Jungraithmayr [1974b]). In Kera there is no aspectual dichotomy, but rather a trichotomy:

1. **Past and perfect** tenses have the feature [+completed action].
2. **Progressive** tenses have the feature [-completed action].
3. **Basic aspect** and optative are unmarked in regard to this feature.

The /n/ of past and perfective tenses can easily be identified as a completed action marker. It relates, however, in no way to Jungraithmayr's aspect marking, where it is the imperfective that is marked vs. the perfective.

The progressive, an imperfective tense in the true sense, is a nominal construction. Together with the verbal noun, the progressive exhibits an irregularity in the tone pattern 2b. As the low tone verbs of 2b have medial sonorants, which are tone permeable, no high tone should occur in the second syllable, as in hàmè, bà hàmè (cf. C-forms). There are two possible sources for these high tones:

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3Jungraithmayr's perfective/imperfective distinction is intended as a morphologic rather than a semantic dichotomy. Within each "aspect" there may be several "tenses", which indicate such features as time reference, habitualness, etc. The same tense may occur on the perfective side in one language and on the imperfective in another.
(a) Verbal noun and progressive, but not basic aspect and citation forms, are marked by a non-segmental high tone realized on the final vowel. With the assumption that tone assimilation rules do not apply twice we get hàm- + é + ' --> hàmè 'eating' as opposed to hàm- + é' --> hàmè 'eat, eats'. The high tone could morphologically represent Jungraithmayr's third stage, i.e. aspect marking by tone as found in Zime, Tumak, Ron and some other languages [Jungraithmayr 1974b].

(b) For the progressive forms with a pronominal suffix, however, the locative marker is more likely to be the source of high tones: the locative suffix /a/ is mid after a definite marker, high elsewhere; after a vowel only the tone is realized. The marker goes after a nominal object. The following examples show the structural identity of progressive and locative constructions:

**Progressive**

(14) we bà hàmàmá
'he is eating you (m)'

(15) we bà hàmú (hàmú)5
'he is eating it'

(16) we bà hàrsf kulí (kuli + á)
'he is constructing a hut'

(17) we bà hàrsf kulíña (kuliń + a)
'he is constructing the hut'

(18) we bà g öl hùlùmè
'he is watching a man'

(19) we bà g öl hùlùma (hùlùm + a)
'he is watching the man'

**Locative**

(20) glidömá
'inside you (m)'

cf. glidlm
'your stomach'

(21) glidú (glidů)
'inside him'

cf. glidů
'his stomach'

4 As tonal patterns are different for verbal and nominal forms we might also assume that the rules of tonal assimilation are blocked by a category change.

5 A rising variant is possible if lengthening of the final vowel is optional.
(22) gidè kulif
'in a hut'

(23) gidè kulifà
'in the hut'

(24) gud hulumè
'after a man'

cf. gud hulum
'a man's behind'

(25) gud hulumà
'after the man'

cf. gud hulum
'the man's behind'

Although bè is not used as a locative preposition elsewhere, I take the progressive to be a locative construction, as it is in a number of other Chadic languages. The final high tones in the progressive forms can then be attributed to the locative marker. Note that there is no final high tone if the locative marker is mid, due to a preceding definite marker.

Although it would be simpler to derive the progressive from the basic aspect by the simple schema bè + basic aspect + /a/_{loc}
rather than bè + \{VN - final vowel + pronominal suffix + [H]_a + /a/_{loc}\},
it seems more plausible that it should be based on the nominal form. We have, however, no definite criterion for deciding whether the final high tone in the progressive without a pronominal suffix is a locative marker or a verbal noun marker (and thereby possibly an old aspect marker) or both.\(^6\) But whatever the source of the high tone may be, the progressive is regularly derivable from the same verb stem as all other tenses. There is thus no need to distinguish different aspect stems in a synchronic description of Kera.

3. **Summary**

Kera, like other Chadic languages, has two final vowels with certain verb forms and two verbal tone patterns. Both, however, are predictable such that there is no need to establish final vowel classes and tone classes. Whereas the final vowels e/i may be related to Proto-Chadic a/ə as reconstructed by Newman, Kera tone patterns seem to indicate, together with...

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\(^6\)This situation seems to be not untypical for Chadic in general. Schuh [1976:11] shows that throughout much of Chadic the imperfective aspect and the locative construction have fallen together.
similar evidence from a number of other Chadic languages, that verbal tone classes are not a common Chadic phenomenon and that the reconstruction of Proto-Chadic tone classes has to be reconsidered. As for aspects, Kera has a trichotomic rather than a dichotomic system. There is no justification for distinguishing two aspect stems, as all verb forms are derivable from one stem. The semantic notion of imperfectivity is expressed by a locative construction with the help of the verbal noun.

REFERENCES


