Five Puzzling Chaha Verbs
An Exercise in Practical Morphophonemics[1]

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This paper is an attempt at disentangling the puzzling morphophonemics of five Chaha verbs: gıyäm "be inhospitable", qıyäm "wait, guard", sıyäm "buy", tıyäm "be noticed", Cıyäm "stink".[2] [3] The solution will take the classical form in Semitic morphophonology, viz. the identification of the roots involved. That is, the peculiar behavior of our five verbs, a class Polotsky called "obscure" (Polotsky 1951:552-553) will be shown to follow from the nature and respective positions of the segments involved in the makeup of the roots. Specifically, I will argue that the verbs under discussion are of a rare type, triply weak quadriradicals.[4] Evidence from various types of verbs from weak roots, both tri- and quadriliterals, will be adduced and discussed, and the class at hand will be shown to instantiate a mere combination of such outstanding features as quadriradicality and multiple weakness.

No attempt will be made at drawing the consequences of the analysis put forth in this paper for the elaboration of linguistic theory.

First, consider and compare the various inflected forms of a verb such as sätäßäm "curse" from a sane root √sdb in (1)[5], and those of one of our verbs, qıyäm in (2).

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[1] It is obvious from the writings of Wolf Leslau that he has always been intrigued by the class of verbs under scrutiny in this paper (Leslau 1992:57, 131, 215, 377, 439, 440). In at least one place, Leslau suggested that they are "abbreviated quadriliterals" (Leslau 1992: 131). It is my great pleasure to present him on the occasion of his birthday with an analysis which, if correct, vindicates his hunch. I take this opportunity to express my admiration and gratitude for an unparalleled contribution to the study of Ethiopian Semitic. The analysis developed here was first presented at UQAM in the Fall of 1990 to an audience consisting of Degif Petros and Sharon Rose. I am grateful to both for their interest and support. Every piece of data discussed here was gathered with the cooperation of Degif Petros in 1989 in Addis Ababa and in Montreal in subsequent years, and will eventually appear as part of Lowenstamm & Petros (in preparation). No specific credit is given for similar information already gathered and reported by our predecessors, Hetzron, Marcos, Polotsky among others, and especially Wolf Leslau, although their invaluable contribution is gratefully acknowledged.

[2] The citation form for verbs is the Imperfective 3rd ms.sg. accompanied by the non-negative morpheme -m.

[3] The following phonetic notational conventions are adopted in this paper: q is an ejective k; T is an ejective t; ^{w} indicates labialization; ^{y} indicates palatalization of a velar, e.g. g^{y}, k^{y}; C is an ejective palatoalveolar strident; c is a voiceless palatoalveolar; ı is a high central vowel.

[4] Two other verbs, nıyäm "sleep" and wıyäm "go down", probably weak quadriradicals as well, will be dealt with elsewhere.

[5] The very rough morphological analysis appearing in (1), but not in the remainder of this paper, is merely intended as an aid to the reader unfamiliar with Chaha. Essentially, material appearing to the left of the root initial consonant is represented as a prefix, whereas material appearing to the right of the the root final consonant is represented as a suffix. Obviously, it is an open question whether the underscored ä of, sätäß-ä(m) or sätäß-äcı(m) is part of the suffix itself, or results from propagation from some stem-internal position. The characteristic Perfective non-negative morpheme m appears bracketed in (1), but not in the remainder of this paper. The underscored i in sıdiß and tı-sädiß marks Sg. 2f.

(1)

	Perfect	Present	Jussive
Sg.			
1c	sätäß-x^{w}ɪ(m)	ä-sädɪß	nɪ-sdɪß
2m	sätäß-xä(m)	tɪ-sädɪß	sɪdɪß
2f	sätäß-çɪ(m)	tɪ-sädiß	sɪdiß
3m	sätäß-ä(m)	yɪ-sädɪß	yä-sdɪß
3f	sätäß-äcɪ(m)	tɪ-sädɪß	tɪ-sdɪß
Pl.			
1c	sätäß-nä(m)	nɪ-sädɪß-nä	nɪ-sdɪß-nä
2m	sätäß-xu(m)	tɪ-sädß-o	sɪdß-o
2f	sätäß-xɪma(m)	tɪ-sädß-äma	sɪdß-äma
3m	sätäß-o(m)	yɪ-sädß-o	yä-sdɪß-o
3f	sätäß-äma(m)	yɪ-sädß-äma	yä-sdɪß-äma

Our first observation deals with consonant stability. In a verb from a sane root, such as sätäβäm, all three radical consonants, s, d, and b, are represented in all forms. In the case at hand, C_2 is represented by the voiceless allophone of d in the Perfective, and by its voiced allophone in the Present and the Jussive. This systematic phenomenon, irrelevant to the present study, is described and discussed in Leslau (1948); C_3 is represented by β, the spirant allophone of b, as is very generally the case in Chaha in all positions save word-initially.

Similar consonant stability cannot be observed in the case of verbs such as qɪyäm, as shown in (2). To be sure, C_1, q in the forms of (2), never fails to appear stem-initially. On the other hand, subsequent consonantal material is unstable. Indeed, C_1 is followed by either y or r, never both. To wit, 2nd fem. pl. forms: qɪyäxmam in the Perfective, but tɪqräma and qäräma in the Present and Jussive, respectively.

(2)

	Perfect	Present	Jussive
Sg.			
1c	qɪyäx^{w}ɪm	äqyä	nɪqäyä
2m	qɪyäxäm	tɪqyä	qäyä
2f	qɪyäçɪm	tɪqyä	qäyä
3m	qɪyäm	yɪqyä	yäqäyä
3f	qyäcɪm	tɪqyä	tɪqäyä
Pl.			
1c	qɪyänäm	nɪqyänä	nɪqäyäna
2m	qɪyäxum	tɪqräwo	qäräwo
2f	qɪyäxmam	tɪqräma	qäräma
3m	qɪrawom	yɪqräwo	yäqäräwo
3f	qɪraßämam	yɪqräma	yäqäräma

Two hypotheses regarding the nature of the root of qɪyäm can plausibly be entertained in view of the instability of radical material and the seemingly complementary distribution of y and r. They appear in (3).

(3)

a) if r and y are construed as allophones of the same phoneme, the root can be viewed as biconsonantal, viz. √q{r,y}.

b) if on the other hand r and y are distinct segments, the root can be viewed as triconsonantal, viz. √qry.[6]

However, the hypotheses in (3) will be discarded on account of a further observation, one regarding the vocalization of C_1 in the paradigms in (2): in all forms, the initial consonant of qıyäm is vocalized exactly as the initial consonant of a quadriliteral.

The unique features of the vocalization of root initial consonants in quadriliterals are summed up in (4).

(4)

i. C_1 is followed by the high central vowel ı in all forms of the Perfective
ii. no vowel appears after C_1 in any of the forms of the Present
iii. C_1 is followed by the low central vowel ä in all forms of the Jussive

The generalizations of (4) are illustrated in (5) with the paradigms of qıräTämäm "cut", a quadriliteral from a sane root, √qrTm. The reader can verify a) that the initial consonants of qıyäm and qıräTämäm are vocalized alike throughout by comparing (3) and (5), and b) that conversely, none of the generalizations of (4) holds true of triliterals by comparing (1) and (5).

(5)

	Perfect	Present	Jussive
Sg.			
1c	qıräTämx^{w}ım	äqräTım	nıqärTım
2m	qıräTämxäm	tıqräTım	qärTım
2f	qıräTämçım	tıqräTim	qärTim
3m	qıräTämäm	yıqräTım	yäqärTım
3f	qıräTämäcım	tıqräTım	tıqärTım
Pl.			
1c	qıräTämnäm	nıqräTımnä	nıqärTımnä
2m	qıräTämxum	tıqräTmo	qärTımo
2f	qıräTämxımam	tıqräTmäma	qärTımäma
3m	qıräTämom	yıqräTmo	yäqärTımo
3f	qıräTämämam	yıqräTmäma	yäqärTımäma

Consequently, capitalizing on the characteristic facts of initial consonant vocalization, I will pursue the hypothesis in (6).

(6)

The verbs under discussion in this paper are quadriliterals

Under (6) then, the root of qıyäm has, to this point, the partial representation in (7) with unidentified radical elements associated with subscripted question marks.

(7)

$$\sqrt{q(C_2)_?(C_3)_?(C_4)_?}$$

[6] Hetzron (1977:49, 75) views this class as diachronically derived from root type _Cry, a possibility not explored here.

Turning to the right margin of (7), we note an important clue regarding the identity of C_4: in (2), all the consonant initial suffixes of the Present are preceded by vowel ä, a behavior typical of verbs from roots with final front glides. Paradigms of two examples of such verbs are provided below, säqyäm "stuff in, squeeze together" a triradical from √sqy, and fıräqyäm "break shell, remove cotton seeds" a quadriradical from √frqy.[7] [8] If those verbs behaved like their counterparts from sane roots, forms such as *säqäyxʷım, *fıräqäyxʷım would be observed. Alternatively, if verbs from sane roots conjugated like their counterparts from y-final roots, forms such as *sätβäxʷım, *qıräTmäxʷım could be observed.

(8)

	Perfect	Present	Jussive
Sg.			
1c	säqyäxʷım	äsäqy	nısqy
2m	säqyäxäm	tısäqy	sıqy
2f	säqyäçım	tısäqy	sıqy
3m	säqyäm	yısäqy	yäsqy
3f	säqyäcım	tısäqy	tısqy
Pl.			
1c	säqyänäm	nısäqynä	nısqyınä
2m	säqyäxum	tısäqo	sıqo
2f	säqyäxmam	tısäqäma	sıqäma
3m	säqäwom	yısäqo	yäsqo
3f	säqämam	yısäqäma	yäsqäma

(9)

	Perfect	Present	Jussive
Sg.			
1c	fıräqyäxʷım	äfräqy	nıfänqy
2m	fıräqyäxäm	tıfräqy	fänqy
2f	fıräqyäçım	tıfräqy	fänqy
3m	fıräqyäm	yıfräqy	yäfänqy
3f	fıräqyäcım	tıfräqy	tıfänqy
Pl.			
1c	fıräqyänäm	nıfräqynä	nıfänqyınä
2m	fıräqyäxum	tıfräqo	fänqo
2f	fıräqyäxmam	tıfräqäma	fänqäma
3m	fıräqäwom	yıfräqo	yäfänqo
3f	fıräqämam	yıfräqäma	yäfänqäma

Consequently, I conclude that verbs such as qıyäm are y-final, a result formulaically represented in (10).

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[7] I have purposely picked two verbs with penultimate q, so as to stay away from palatoalveolarization of coronals and alternations affecting velars, such as k/g, k/x/ç.

[8] Notations such as säqyäm, fýräqyäm (as opposed to säq^{y}äm, fýräq^{y}äm) represent a commitment to the respective triradicality and quadriradicality of those verbs. See Lowenstamm (1996) for an account of palatalization.

(10)

$$\sqrt{q(C_2)ʔ(C_3)ʔ\ y}$$

y-final verbs provide us with additional relevant information. The careful reader will have noticed that the root-final y cannot maintain itself in the third persons plural of the Perfect, hence säqäwom (with transition glide w between ä and o) rather than *säqyäwom, fıräqäwom rather than *fıräqyäwom, etc., and the second and third persons plural of the Present and the Jussive.[9] The relevant portion of the paradigm of säqyäm, with "depalatalized" forms, is repeated in (11) for convenience.

(11)

	Perfect	Present	Jussive
Pl.			
2m		tısäqo	sıqo
2f		tısäqäma	sıqäma
3m	säqäwom	yısäqo	yäsqo
3f	säqämam	yısäqäma	yäsqäma

The important point here, is that the "depalatalizing" environments of (11) correspond exactly to those instances of (2) repeated as (12) where the conjugation of qıyäm was shown to display r, and no y. All other forms of (2) display y, and no r.

(12)

	Perfect	Present	Jussive
Pl.			
2m		tıqräwo	qäräwo
2f		tıqräma	qäräma
3m	qırawom	yıqräwo	yäqäräwo
3f	qıraßämam	yıqräma	yäqäräma

We are now in a position to provide an interpretation for the complementary distribution of r and y in the paradigms of qıyäm: rather than being allophones of one and the same phoneme, r and y are mutually incompatible independant radical segments. The forms of säqyäm and fıräqyäm have the status of a control test with respect to the preceding assertion: if r and y were indeed allophones of the same phoneme as a first inspection of (2) might have led one to suppose, then r would appear upon depalatalization in (8) and (9) as well, and forms such as *säqräwom (or *säqärom), fıräqräwom (or *fıräqärom) would be observed. The fact that complementary distribution of r and y obtains in (2) but not (8) or (9), is best accounted for as in (13).

(13)

i. the root of qıyäm includes the mutually incompatible segments r and y; r appears in exactly those environments where y cannot, hence their complementary distribution.

ii. both the roots of säqyäm and fıräqyäm include a y; no r ever appears where y cannot, simply because those roots never included an r, in the first place.

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[9] I believe the facts of 3rd m. and f. pl. "depalatalization" were first reported by Leslau in section 40 of his "Outline of Chaha", (Leslau, 1950). Based on Leslau's texts, Polotsky (1951) insightfully surmised that depalatalization had to take place in the 2nd m. and f. pl. of the Present and Jussive, as well.

The peculiar phonological interaction between r and y can be rapidly documented by means of the sg. 2nd f., a form realized by the addition to the sg. 2nd m. of a floating i , as shown in (14).[10]

(14)

Root	2nd m.	2nd f.
√ndf "sting, fluff cotton"	tırädıf	tırädif
√kft "open"	tıkäft	tıkäfc
√qbr "plant"	tıqäβır	tıqäβi

When the root-final consonant is a labio-dental, the feminine marker "jumps over" it, hence tırädif; when the root-final consonant is a coronal, the feminine marker is realized in the form of a palatoalveolarization of that last root consonant; finally, when the last root consonant is r, a vowel i, as in tıqäβi, appears at the expense of r.[11]

After this sketchy description of the effect of i onto heteromorphemic r, we turn to the paradigms of gänäm "cause harm through the use of witchcraft", a triradical verb from root √gry directly documenting the peculiar interaction between homomorphemic r and y.

(15)

	Perfect	Present	Jussive
Sg.			
1c	gänäx^{w}ım	äge	nıgi
2m	gänäxäm	tıge	gi
2f	gänäçım	tıge	gi
3m	gänäm	yıge	yägi
3f	gänäcım	tıge	tıgi
Pl.			
1c	gänänäm	nıgenä	nıginä
2m	gänäxum	tıgäro	gıro
2f	gänäxmam	tıgäräma	gıräma
3m	gänäwom	yıgäro	yägro
3f	gänämam	yıgäräma	yägräma

A number of comments are in order relative to the paradigms in (15). The n appearing in the Perfect is the "strong" form of root medial r, what t is to d in alternations such as sätäβäm/yısädıβ/yäsdıβ in (1), cf. Hetzron (1977), Leslau (1948, 1950, 1979). The front vowels in the Present and Jussive are the joint effect of two phenomena: a) "palatalization" of r by y as already seen in (14) (ry ---> i, b) "coloring" or "palatalization" of the preceding vowel (a +i ---> e, ı + i ---> i). In the present and Jussive, the "depalatalizing" suffixes discussed in connection with verbs säqyäm and fıräqyäm cause root-final y to drop; in those instances, root-medial r survives and no vowel coloring can be observed, hence yägräma, not *yägema. In the present, n not being palatalizable, y drops in all forms. In short, root-final y can only survive in the form of a graft onto neighboring material. When conditions for such a graft are not met, segmental material (minus y, of course) patterns as it would in verbs from sane roots. The representations underlying the forms of (15) appear in (16). The reader can verify that those slightly abstract forms are exactly identical in all

[10] Cf. McCarthy (1983) for an autosegmental analysis of Feminine Formation.

[11] The statements in this paragraph are intended as descriptive comments on the forms of (14), not as an analysis of sg. 2nd f. formation.

respects, including vocalism, to the surface forms of a sane verb such as appears in (1), and work out the surface forms from what precedes (/ägärıy/ > ägäy > [äge], /nıgırıy/ > nıgıy > [nıgi], etc.).

(16)

	Perfect	Present	Jussive
Sg.			
1c	/gänäyxʷım/	/ägärıy/	/nıgrıy/
2m	/gänäyxäm/	/tıgärıy/	/gırıy/
2f	/gänäyçım/	/tıgäriy/	/gıriy/
3m	/gänäyäm/	/yıgärıy/	/yägrıy/
3f	/gänäyäcım/	/tıgärıy/	/tıgrıy/
Pl.			
1c	/gänäynäm/	/nıgärıynä/	/nıgrıynä/
2m	/gänäyxum/	/tıgäryo/	/gıryo/
2f	/gänäßxımam/	/tıgärßäma/	/gıryäma/
3m	/gänäyom/	/yıgäryo/	/yägrıyo/
3f	/gänäyämam/	/yıgäryäma/	/yägrıyäma/

Based on this discussion of the interaction between r and y, we can return to the root of qıyäm and conclude that it includes y and r. However, it would be premature to propose a representation such as in (17) where r would stand as the penultimate root consonant, next to final y.

(17)

$$\sqrt{q(C_2)\,?\ r\ y}$$

The reason for rejecting (17) has to do with the peculiar vocalization of r in the pl. 3rd persons of the Present, qırawom, qıraβämam. The paradigm of (2) is repeated as (18) for convenience.

(18)

	Perfect	Present	Jussive
Sg.			
1c	qıyäxʷım	äqyä	nıqäyä
2m	qıyäxäm	tıqyä	qäyä
2f	qıyäçım	tıqyä	qäyä
3m	qıyäm	yıqyä	yäqäyä
3f	qıyäcım	tıqyä	tıqäyä
Pl.			
1c	qıyänäm	nıqyänä	nıqäyäna
2m	qıyäxum	tıqräwo	qäräwo
2f	qıyäxmam	tıqräma	qäräma
3m	qırawom	yıqräwo	yäqäräwo
3f	qıraßämam	yıqräma	yäqäräma

In order to gain insight into the presence of a in the pl. 3rd persons of the Present, consider the paradigms of "a-final" verbs such as triradical sämam "listen" in (19), or quadriradical fıräqam "hatch" (obviously a cognate of fıräqyäm) in (20). The final a of such verbs is in many cases the Chaha version of a former Semitic guttural, cf. Leslau (1957, 1960) for valuable discussion, and Prunet (this volume) for important novel information and discussion of Inor evidence. The roots of those verbs will be represented as

√smA and √frqA, respectively where A stands for the abstract guttural segment.

(19)

Perfect	Present	Jussive
sämax^{w}ım	äsäma	nısma
sämaxäm	tısäma	sıma
sämaçım	tısemä	simä
sämam	yısäma	yäsma
sämacım	tısäma	tısma
sämanäm	nısämanä	nısmanä
sämaxum	tısämo	sımo
sämaxmam	tısämäma	sımäma
sämom	yısämo	yäsmo
sämämam	yısämäma	yäsmäma

(20)

Perfect	Present	Jussive
fıräqax^{w}ım	äfräqa	nıfänqa
fıräqaxäm	tıfräqa	fänqa
fıräqaçım	tıfräq^{y}ä	fänq^{y}ä
fıräqam	yıfräqa	yäfänqa
fıräqacım	tıfräqa	tıfänqa
fıräqanäm	nıfräqanä	nıfänqanä
fıräqaxum	tıfräqo	fänqo
fıräqaxmam	tıfräqäma	fänqäma
fıräqom	yıfräqo	yäfänqo
fıräqämam	yıfräqäma	yäfänqäma

The important observation to be made in connection with the Present paradigms of (19) and (20) concerns the distribution of root-final a. a appears in all forms of the Present except the pl. 3rd persons, that is fıräqom, instead of expected *fıräqawom, with w as a hiatus breaker as in qırawom. Evidently, the configuration at the juncture of stems and agreement markers in the pl. 3rd persons of the Present is such that insufficient space is available for the expression of root final segment A.[12] In this light, the puzzling, seemingly spurious a's of qıra̲wom, qıra̲ßämam begin to make sense. The reader will recall that both pl. 3rd suffix agreement markers are of the "depalatalizing" type. As such they make it impossible for root-final y to subsist in any form. As a consequence of this absence of y, more space is available, than is normally the case at the right edge of the binyan. These circumstances define precisely what would happen if the root of qıyäm had A as its penultimate member: A would be allowed to surface in just that section

[12] See Lowenstamm (1991, 1996), Lowenstamm & Prunet (1987), Polotsky (1951), Rose (1996) for relevant assumptions about vowel length.

of the Present paradigm where it is normally barred from appearing, viz. the pl. 3rd persons. Indeed, *fıräqawom is ungrammatical as opposed to qıra̲wom.[13]

I conclude that the root of qıyäm and the other four verbs is of the type shown in (21).

(21)

√C r A y

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[13] A similar argument can be made with cäm "abandon", a triradical from _tAy. In the Present, this verb displays forms such as cäx^{w}ým, cäxäm, cäçým, cäm, cäcým, cänäm, cäxum, cäxmam, and with the "depalatalizing" pl. 3rd persons... ta̲wom and ta̲βämam.