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THE HISTORICAL RECONSTRUCTION
OF SOUTHERN CUSHITIC
PHONOLOGY AND VOCABULARY

Von

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Mit neun Zeichnungen

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DIETRICH REIMER VERLAG IN BERLIN

and the evidence in particular problems of dates and probable s appear in Table 5. ages calculated from

NGE

ALAGWA
to divide into three gwa; (b) Mbuguan, alo. This threefold in chapters 6–10. e out clearly in the s in the low 40% s once removed—a and ancestral West refute this solution ist Rift subgroups, icularly liberal in West Rift influence nce of a closer Asa hypothesis would gnation with Ma'a e Kw'adza counts elationship among rift divergence into oto-East Rift into nguage for a much unge, and Alagwa g the Asa-Dahalo # for discussion)— Southern Cushitic %, with extreme the highest count Cushitic languages. nce demonstrating tic and Afroasiatic

Chapter 3

THE CONSONANTS OF PROTO-SOUTHERN CUSHITIC

It has been necessary so far to reconstruct 47 consonants for proto-Southern Cushitic. One additional consonant seems probable and another possible, making 49 in all. The number of consonants is relatively unusual among languages of the world, but by no means unknown. Some consonants are very frequently attested; others appear to have been rare in proto-Southern Cushitic. The actual number which go back to earlier Afroasiatic etymons is probably fewer than 49, and some reconstructions such as certain of the prenasalized series of consonants may have entered Southern Cushitic speech via loanwords. Others may have arisen through consonant splits. The rare prepalatal voiceless stop, for example, might derive in part from older *t through palatalization in limited environments (consider *tYir- “liver” in contrast to Eastern Cushitic cognates showing initial *t) and in part from their occurrence in loanwords (e. g., *tYan- “honey,” noted in Chapter 2 above). But determinations of this sort must await future studies.

I

Five consonants of proto-Southern Cushitic were articulated as voiced stops: *b, *d, *ḏ, *g, and *gw. A sixth stop, *dy, is possible but unproven.

1. *b

Reflexes in initial position:

Ir., Bur., Alagwa /b/; Kw'. /b/, Asa /b/; Ma'a /b/; Dah. /b/

Reflexes in non-initial position:

Ir. /w/, Bur., Alagwa /b/; Kw'. /b/, /w/, Asa /b/; Ma'a /b/; Dah. /β/, /b/, /pp/

Comments:

(a) Iraqw has /b/ in several CC contexts (not found in any other Southern Cushitic language); it also has intervocalic /b/ where a prefix has been added to a /b/-initial stem since the *b → w rules and sometimes where the proximate consonant is a nasal.

(b) Dahalo has instances of intervocalic /b/ corresponding to proto-Southern Cushitic *b medially in a triconsonantal root.

This item appears, on balance of evidence to have been pronounced, at least in initial position, as a voiced implosive in proto-Southern Cushitic. Two of the three coordinate branches of the family render it thus initially, and Ma'a does so non-initially. On the other hand, its usual non-initial occurrence in Dahalo as a voiced bilabial fricative indicates that its original non-initial allophone may instead have been non-implosive.

2. *d

Reflexes in initial position:

Ir., Bur., Alagwa /d/; Kw'. /d/; Asa /ɗ/; Ma'a /ɗ/; Dah. /ɗ/ (dental)

Reflexes in non-initial position:

Ir., Alagwa /r/, Bur. /d/; Kw'. /l/, /d/, Asa /ɗ/; Ma'a /r/; Dah. /ɗ/ (dental), /r/

Comments:

(a) Kw'adza has /d/ in verb-stem final position and /l/ elsewhere. (b) Dahalo has /r/ for *d as the second consonant in words which had three or more consonants at the time of the *d > /r/ shift.

All the evidence, except one of the two Dahalo reflexes of this item, require an alveolar point of articulation. Only the Ma'a data suggests implosion in initial environment, but the Dahalo lack of this characteristic may be attributable to its shift of the segment to dental position. And it would be more in keeping with the evidence of the other non-velar voiced stops if implosion were attributed to the proto-Southern Cushitic form. Again, however, and more strongly than for *b, the evidence suggests that the non-initial allophone was explosive. Not just in Dahalo, but also in Ma'a and widely in the Rift languages, liquids turn up as non-initial reflexes. The proto-Southern Cushitic *d can thus be tentatively assumed to have had an implosive alveolar allophone initially and a non-implosive allophone, perhaps an alveolar tap from the frequency of /r/ reflexes, elsewhere.

3. *ɗ

Reflexes in initial position:

Ir., Bur., Alagwa /d/; Kw'. /d/, Asa /ɗ/; Ma'a /ɗ/, /z/; Dah. /ɗ/

Reflexes in non-initial position:

Ir., Bur., Alagwa /r/; Kw'. /l/, Asa /r/; Ma'a /ɗ/, /r/; Dah. /ɗ/, /r/

Comments:

Ma'a initial /z/ occurs where the second consonant is a stop; /ɗ/ in other cases. Ma'a has /r/ for *ɗ only when it was in verb-stem final position at the time of the sound shift.

The whole weight of the immediately apparent evidence certifies the reconstruction of a voiced alveolar implosive for this item. What is assumed to distinguish it from previously reconstructed *d is retroflex articulation, thus: *ɗ. Retroflexion would neatly explain the universal Rift shift of non-initial *ɗ to *r and the Ma'a creation of /r/ from verb-stem final *ɗ. Retroflex consonants are in any case common in other Cushitic languages. What the Ma'a and Dahalo evidence suggests about this particular proto-Southern Cushitic stop, which may distinguish it from the two voiced stops so far discussed, is that *ɗ might have been implosive non-initially as well as at the beginning of stems. It seems in fact hard to avoid that conclusion since the Mbuguan and Dahaloan treatments of *ɗ are quite distinct from those of *d and generally result in a modern-day implosive reflex non-initially. In the suggested sound-shift histories for the various Southern Cushitic languages (Chapters 6-10) *ɗ has been treated as originally implosive in all positions.

4. *dy

Proposed reflexes in initial position:

Ir., Alagwa /d/; Asa /nd/; Ma'a /r/; (?) Dah. /d/

Proposed reflexes
Ma'a /r/; D

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to explain othe
changing the v
became /r/ by a
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voiceless palata
affect possible *
of *ty (which s

5. *g

Reflexes in i

Ir., Bur.,

Reflexes in

Ir. /g/,

Comments:

(a) Iraqw

possible r

(b) Kw'ad

Kw'adza a

/k/ for *g

syllables:

reduplicat

The evidence
implosive artic

6. *gw

Reflexes in mo

Ir., Bur.,

Comments:

(a) Ma'a appe

feature else

(b) Iraqw *gw

For each voi
*t, *ty, *k, an

Proposed reflexes in non-initial position:

Ma'a /r/; Dah. /d/

A consonant of this form, with non-implosive articulation in all positions, might possibly account for a very rare set of sound correspondences not otherwise explained as yet, but this remains to be seen. What is appealing about the hypothetical consonant is that it would account for the correspondences without requiring a single additional rule to those already constructed to explain other Southern Cushitic consonant reflexes. The Mbuguan rule #35 (Chapter 9) changing the voiceless equivalent *tʏ to /t/ also would have moved *dʏ to [d], which later became /r/ by a rule affecting all early Mbuguan non-implosive d (see # 2 above for the rule's affect on non-initial *d in Mbuguan). The Dahalo reflex /d/ is explained by a rule which changed all oral palatal consonants to their alveolar equivalents in the language, while in Rift the voiceless palatal stop took voicing by an early proto-Rift rule, and so rules affecting *tʏ also affect possible *dʏ (see # 10 below). Rift reflexes of *dʏ should therefore be identical with those of *tʏ (which see).

5. *g

Reflexes in initial position:

Ir., Bur., Alagwa /g/; Kw'. /g/, Asa /g/; Ma'a /g/; Dah. /g/

Reflexes in non-initial position:

Ir. /g/, Ø, Bur., Alagwa /g/; Kw'. /g/, Ø, Asa /g/; Ma'a /g/; Dah. /g/

Comments:

(a) Iraqw has Ø as its reflex of *g in certain non-initial contexts; for tentative statement of possible rules involved, see Chapter 7.

(b) Kw'adza and Asa have /k/ for initial *g where the following consonant was voiceless. Kw'adza also deleted *g in a certain medial environment, for which see Chapter 8. Initial /k/ for *g turns up as well in many Kw'adza instances of stem with reduplicated first syllables: e. g., proto-Southern Cushitic *gɪlɪ 'knee' yields the Kw'adza stem, with reduplicated first syllable, /kungulu-/.

The evidence universally supports the reconstruction of *g. There is no indication of an implosive articulation, either initially or non-initially.

6. *gʷ

Reflexes in most positions:

Ir., Bur., Alagwa /gʷ/; Kw'. /gʷ/, Asa /gʷ/, /g/; Ma'a /g/, /gʷ/; Dah. /gʷ/

Comments:

(a) Ma'a appears to retain labialization where the following vowel was long, but lose the feature elsewhere.

(b) Iraqw *gʷ > w under the same rule as *g > Ø.

II

For each voiced stop proto-Southern Cushitic had a corresponding voiceless stop—*p, *t, *ʈ, *tʏ, *k, and *kʷ.

7. *p

Reflexes:

All Southern Cushitic languages render this etymon as /p/, a voiceless bilabial stop, apparently in all positions. The proto-Southern Cushitic rendering must therefore have been the same.

8. *t

Reflexes:

Ir., Alagwa /t/, Bur. /t/, /d/; Kw'. , Asa /t/; Ma'a /t/; Dahalo /t/

Two of the three branches of Southern Cushitic realize this item as an alveolar stop, one as a dental. Thus the preponderance of evidence requires reconstruction of the former. In Burunge and Asa some non-initial *t become /d/. Dahalo had apparently a single rule shifting *t and *d from alveolar to dental pronunciation.

9. *t̥

Reflexes in initial position:

Ir., Alagwa /ts'/, bur. /č'/?; Kw'. /ts'/?; Asa /j/; Ma'a /t/; Dahalo /ts/

Reflexes in non-initial position:

Ir., Alagwa, Bur. /r/; Kw'. /l/, Asa /r/; Ma'a /t/; Dah. /ts/

The item must be considered the voiceless equivalent of *t̥ for three reasons. The first consideration is that in non-initial environments it fell together in the Rift languages with reflexes of *t̥, explainable by a simple intervocalic voicing rule. The second evidence of retroflex pronunciation consists of the separate instances of the segment producing affricate reflexes, in proto-Rift initially and in Dahalo everywhere. The third reason for making it the voiceless equivalent of *t̥ is that its shift to /t/ and *t̥'s shift to /t̥/ in Ma'a could then be explained by a single rule collapsing the retroflex alveolars with their non-retroflex equivalents.

10. *ty

Reflexes in initial position:

Ir., Bur. /d/; Kw'. /nd/, /d/, Asa /nd/; Ma'a /t/; Dah /t/

Reflexes in non-initial position:

Ir. /r/; Kw'. /d/, Asa /r/; Ma'a /t/; Dah. /t/

Comments:

The reflexes of *ty suggested here combine those seen from Table 1, VI.B, and Table 2, II.AA, according to the discussion of rule changes affecting *ty and putative *dy contained in Chapter 6, I.

The reflexes of this etymon favor reconstructing a voiceless stop, apparently alveolar. But, in addition to the difficulty that two clearly alveolar voiceless stops have already been postulated, two pieces of evidence support a palatal original. One is that the other palatals give alveolars in Dahalo, e. g., #16 and #21 below, whereas the proto-Southern Cushitic alveolar stops, as previously noted, gave dentals in Dahalo. The second and most convincing point is that reconstruction of a voiceless palatal stop would require no other rules in addition to those needed in Dahalo and Ma'a to explain other sound shifts and only one other rule in Rift languages.

11. *k

Normal reflexes in Burunge and Asa environments. was added. In environments of which discussed in Chapter 8.

12. *kw

Reflexes in

Ir., Bur.,

Reflexes in

Ir., Alagwa

/g/-/ɣ/; I

Reflexes in

Ir. /qʷ/,

Comments:

(a) Iraqw

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(b) For r

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6 above

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13. *p'

Reflexes in

Ir., Bur.,

Reflexes in

Ir. /w/,

The solution

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structions indi

14. *t'

Reflexes in

Ir., Alagwa

Reflexes in

Ir., Alagwa

11. *k

Normal reflexes in most environments in all Southern Cushitic languages are /k/, except for Burunge and Asa where many medial *k > /g/. Other exceptions are restricted to more limited environments. In West Rift, *k > /q/ stem-finally when an extension or suffix of the form -aC- was added. In Ma'a and Dahalo *k has voicing and labializing shifts respectively the environments of which are discussed in Chapters 9 and 10. Iraqw also has a limited set of *k > /ʔ/ discussed in Chapter 7, while Kw'adza has /ʔ/ for a different few *k, the rule for which is noted in Chapter 8.

12. *kw

Reflexes in initial position:

Ir., Bur., Alagwa /kʷ/; Kw'. /kʷ/, /k/, Asa /k/; Ma'a /kʷ/; Dah. /kʷ/

Reflexes in medial position:

Ir., Alagwa /kʷ/, /k/, /q/, Bur. /kʷ/, /g/, /q/; Kw'. /gʷ/, /kʷ/, Asa /k/, /g/; Ma'a /k/, /g/~/ɣ/; Dah. /g/

Reflexes in verb-stem final position:

Ir. /qʷ/, Alagwa, Bur. /kʷ/; Dahalo /kʷ/

Comments:

(a) Iraqw and Alagwa have /k/ medially before suffixes of the form -aC-; Burunge shared this shift, but later shifted /k/ to /g/ in many instances, hence the /g/ noted for Burunge.

(b) For rules governing the voicing of velars in Ma'a noninitially, see Chapter 9. Ma'a retains labialization in initial position where the following vowel was originally long: see # 6 above.

III

There were also six ejective stops in proto-Southern Cushitic, each positionally equivalent to a particular voiceless stop already discussed.

13. *p'

Reflexes in initial position:

Ir., Bur., Alagwa /b/; Kw'. /p/, Asa /p/; Ma'a /b/; Dah. /p'/

Reflexes in non-initial position:

Ir. /w/, Alagwa, Bur. /b/; Kw'. /p/, /mp/, Asa /p/; Ma'a /b/; Dah. /p'/

The solution to this correspondence set must be a labial stop, specifically an ejective *p' because it explains then the Ma'a implosive reflex and because the apparent general Dahalo rule was to maintain ejectives in their proto-Southern Cushitic form, as the following four reconstructions indicate.

14. *t'

Reflexes in initial position:

Ir., Alagwa /ts'/, Bur. /č'/; Kw'. /ts'/, Asa /š/; Ma'a /s/; Dah. /t'/

Reflexes in non-initial position:

Ir., Alagwa /ts'/, Bur. /č'/; Kw'. /ts'/, /dz/; /ʔ/, Asa /š/, /j/; Ma'a /s/; Dah. /t'/

Comments:

(a) Kw'adza and Asa voiced their non-initial reflexes when the preceding consonant was voiced. Kw'adza further shifted some of its remaining medial and final /ts'/ to /ʔ/ in contexts noted in rules for which see Chapter 8.

The preponderance of evidence from the three branches of Southern Cushitic argues convincingly for the originally ejective and alveolar character of this item. Its reconstruction as a stop rather than an affricate follows from considerations of the natural directions of sound shift, from a stop and toward a continuant; hence *t' as preserved in Dahalo.

15. *t'

Reflexes in initial position:

Ir., /ts'/; Kw'. /ts'/, Asa /t'/; Ma'a /s/; Dah. /š/

Reflexes in non-initial position:

Ir., Bur., Alagwa /r/; Kw', /l/; Ma'a /s/; Dah. /š/

All initial reflexes—except those of Asa which has voiced several voiceless etymons—favor an originally voiceless consonant; and all except Dahalo point to an alveolar reconstruction. The Ma'a and Dahalo evidence together would seem to suggest a fricative reconstruction; but the Rift reflexes, in being identical with those for the non-ejective *t, require that the etymon first fell together in early Rift with *t and must therefore, for reasons of naturalness of sound change, have been also a stop. The clinching virtue of the reconstruction of *t' is that it requires no additional rules in Mbuguan at all and only a single additional Rift rule deleting ejection and so collapsing *t' with *t.

16. *ty'

Reflexes in initial position:

Ir. /ts'/, Alagwa, Bur. /č'/ Kw'. /s/, Asa /š/; Ma'a /č'/

Dah. /t'/

Reflexes in non-initial position:

Ir., Alagwa, Bur. /s/; Kw', Asa /s/; Ma'a /č/, /j/; Dah. /t'/

While there has been a tendency for this item to move to the alveolar position, the weight of evidence clearly favors an original point of articulation further back in the mouth. The Dahalo evidence requires it to have been originally an ejective stop rather than an affricate. Suggested rules producing the non-initial reflexes in Rift languages are discussed in Chapter 6.

17. *k'

Reflexes:

Ir., Bur., Alagwa /q/; Kw'adza /k'/, /ʔ/, /g/, Asa /ʔ/; Ma'a /k/~/x/; Dah. /k'/

Comments:

- (a) Kw'adza has /ʔ/ for *k' as the second consonant of a word when the first consonant is a fricative or a voiceless stop; *k' goes to Ø in third consonant position in a triconsonantal root. In a few instances, Kw'adza has /g/ for *k', for which see Kw'adza rule # 17, Chapter 8.
- (b) For the development and decline of the Ma'a /k/~/x/ alternance and the occasional non-initial shift of *k' to /g/ or /ɣ/, see chapter 9.

The reconstruction of this item as an ejective stop follows from the evidence of Dahalo and the East Rift languages and from its fit into the ejective series.

18. *kw'

Reflexes in initial position:

Ir., Bur., Al.

Reflexes in non-initial position:

Ir., Bur., Al.

Reflexes in verbal forms:

Ir., Bur., Al.

Comments:

(a) For West

7.

(b) For Ma'a

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The proto-South

19. *f

Reflexes in most

however, has /fw/

triconsonantal root

20. *s

Reflexes in most

/ð/ (voiced dental

/sw/ in a few cases

some non-initial *

21. *š

Reflexes in initial

Ir. /ts'/, Bur.

Reflexes in non-

Ir. /ts'/; Kw'

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22. *x

Reflexes:

Ir., Bur., A

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a rule # 17, Chapter 8.
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vidence of Dahalo and

18. *kw'

Reflexes in initial position:

Ir., Bur., Alagwa /qʷ/; Kw'. /kʷʔ/, Asa /ʔ/; Ma'a /k~/x/; Dah. /kʷʔ/

Reflexes in medial position:

Ir., Bur., Alagwa /qʷ/, /q/; Kw'. /kʷʔ/, /ʔ/, Asa /ʔ/; Ma'a /k~/x/, /g~/ɣ/; Dah. /g/

Reflexes in verb-stem final position:

Ir., Bur., Alagwa /qʷ/; Kw'. /kʔ/, Asa /ʔ/; Dahalo /kʷʔ/

Comments:

(a) For West Rift loss of labialization medially see discussions in # 12 above and in Chapter 7.

(b) For Ma'a voicing of velars intervocalically see # 12 above and Chapter 9. Ma'a also retained some initial *kʷ in the form /kʷ~/xʷ/, for which see the contexts indicated in the discussion of Ma'a *kʷ and *gʷ in # 11 and # 6 respectively.

IV

The proto-Southern Cushitic fricatives were *f, *s, *š, *x, and *xʷ.

19. *f

Reflexes in most environments in all Southern Cushitic languages come out simply /f/. Ma'a, however, has /fw/ before /a/, while Dahalo has /β/ verb-stem final and non-initially in triconsonantal roots.

20. *s

Reflexes in most environments in all Southern Cushitic languages are simply /s/. Dahalo has /ð/ (voiced dental fricative) in the same environments where *f became Dahalo /β/. Ma'a has /sw/ in a few cases, the suggested environment of which is discussed in Chapter 9, and voices some non-initial *s. The rule voicing some non-initial Ma'a reflexes is discussed in Chapter 9.

21. *š

Reflexes in initial position:

Ir. /ts'/, Bur., Alagwa /č'/; Kw'. /s/, Asa /š/; Ma'a /š/, /šw/; Dah. /s/

Reflexes in non-initial position:

Ir. /ts'/; Kw'. /s/, /dz/; Asa /š/, /j/; Ma'a /š/; Dah. /s/

The preponderance of evidence supports reconstruction of a postalveolar point of articulation. As with other members of the postalveolar set, a tendency toward shift into the alveolar area is evident. The Ma'a and Dahalo initial reflex, and the non-initial reflexes in all three branches, show it to have been a voiceless fricative; therefore *š. For Ma'a /šw/ see Chapter 9.

22. *x

Reflexes:

Ir., Bur., Alagwa /x/; Kw'. /x/, Asa /h/; Ma'a /h~/x/, /hw~/xw/; Dah. /k/

Comments:

For Ma'a alternance and occasional voicing (as /ɣ/) in non-initial position, see chapter 7. In all three branches the evidence indicates a velar and voiceless articulation, while Ma'a and Rift evidence requires a fricative, hence *x, a voiceless velar fricative. For Ma'a /hw/~/xw/, see Chapter 9.

23. *xw

Reflexes:

Ir., Bur., Alagwa /xw/; Kw' /xw/, Asa /h/; Ma'a /h/~/x/, /hw/~/xw/; Dah. /g/

Comments:

Ma'a voicing of some non-initial reflexes follows the rule for *x and others. Labialization was retained apparently before long vowels, as noted throughout for the Ma'a labialized velar series.

V

For five of the six points of articulation so far noted, nasals can also be shown to have been present in proto-Southern Cushitic: *m, *n, *nY, *ɲ, and *ɲw. The segment *m was of extremely frequent occurrence, and *n was common, but the last three were rare.

24. *m

Reflexes:

/m/ in nearly all contexts in all Southern Cushitic languages.

Comments:

An apparent proto-Southern Cushitic morphology rule contracting -VmVt- to -Vnt- appears still productive in Dahalo, formerly productive in Ma'a, and in a few relict occurrences in Rift.

25. *n

Reflexes:

/n/ in nearly all contexts in all Southern Cushitic languages

Other reflexes:

(a) Dahalo has /nY/ for *n before /i/, and in at least one instance assimilation has led to the appearance of /nY/ for *n before another vowel: /nYanYi/ as an alternate from of /nanYi/ "we." (b) Iraqw has /n/ for underlying *-mVt# by a general morphology rule. (c) In a number of instances, non-initial /n/ in one Southern Cushitic language will correspond to /m/ in another. Since the tendency, because of the frequency of -Vm-verb extensions and noun suffixes, would be for *n to be analogized to the morphemes in -Vm- in such environments, reconstruction of original *n can normally be assumed.

26. *nY

Reflexes: /nY/ in all known instances

27. *ɲ

Reflexes in

Ir., Bur.,

Reflexes in

Ir., Bur.,

Comments:

(a) In pro

vowel. W

(b) East

(c) Rift la

initial /n/

28. *ɲw

Reflexes in

Bur. /n/

Reflexes in

Ir., Bur

Comments:

(a) West

reflexes.

(b) West

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Cushitic had a
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29. *mp

Reflexes in

Alagwa,

Reflexes in

Ir. /w/,

position, see chapter 7.
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Ma'a /hw/~xw/, see

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Vm- in such environ-

27. *ŋ

Reflexes in initial position:

Ir., Bur., Alagwa /n/; Kw', Asa /ŋ/; Dah. /n/

Reflexes in non-initial position:

Ir., Bur., Alagwa /ng/, /n/; Kw', Asa /ŋ/, /n/; Ma'a /ŋ/; Dah. /n/

Comments:

(a) In proto-Rift a few instances of word-final *ŋ arose through deletion of an earlier final vowel. West Rift final [ŋ] can be treated as an allophone of /ng/.

(b) East Rift medial /ŋ/ is pronounced [ng].

(c) Rift languages have /n/ as their verb-stem final reflex of *ŋ and *ng, hence Rift non-initial /n/ reflexes noted above.

28. *ŋw

Reflexes in initial position:

Bur. /n/, /nY/, Alagwa /nY/; Asa /ŋw/; Ma'a /gw/; Dah. /ng/ (underlying /ngw/)

Reflexes in non-initial position:

Ir., Bur., Alagwa /n/, /ng/; Kw'. /ngw/, Asa /ng/; Ma'a /ŋ/; Dah. /ngw/

Comments:

(a) West Rift *ŋ apparently palatalized before *e, hence the Burunge and Alagwa /nY/ reflexes.

(b) West Rift non-initial /n/, as for *ŋ above, remain from verb-stem final *ŋw.

VI

Along with the voiced, voiceless, ejective, fricative, and nasal series, proto-Southern Cushitic had a corresponding prenasalized set with eight members: *mp, *nt, *nt̥, *nts, *nt̥l, *nty, *nk, and *nk̥w. Each can be considered to be in form the nasalized equivalent of the corresponding voiceless item, generally a voiceless stop. Six of the prenasalized segments match points/manners of articulation already identified; the other two, *nts and *nt̥l, introduce two new sets of consonants, the affricates and the liquids. Each member of the prenasalized series is of relatively rare occurrence, but fortunately each Southern Cushitic language had a single consistent set of sound-changes affecting all of them as a group. And so where evidence may be lacking in the available data for a particular prenasalized consonant in a language, its history can still be inferred from the combined evidence of the other prenasalized segments in that language.

29. *mp

Reflexes in initial position:

Alagwa, Bur. /p/; Kw'. /p/; Ma'a /b/, /p/; Dah. /mb/

Reflexes in non-initial position:

Ir. /w/, Bur., Alagwa /b/; Kw'. /b/; Ma'a /mp/; Dah. /mp/

30. *n_t

Reflexes in initial position:

Ir., Bur., Alagwa /t/; Dah. /nd/

Reflexes in non-initial position:

Ir., Bur., Alagwa /nt/; Ma'a /nt/; Dah. /nt/

31. *n_ɪ

Reflexes in initial position:

Ir., Alagwa /ts'/, Bur. /č'/; Kw'. /ts'/, Asa /š/; Ma'a /d/;

Dah. /nd/

Reflexes in non-initial position:

Ir. /nts'/; Kw'. /ndz/, Asa /j/; Dah. /nt/

32. *n_{ts}

Reflexes in initial position:

Ir. /ts'/; Kw'. /ts'/; Ma'a /z/; Dah. /ndz/

Reflexes in non-initial position:

Bur. /nč'/; Dah. [nts]

33. *n_ɬ

Reflexes in initial position:

Ir., Bur., Alagwa /tl/; Kw'. /tl'/; Ma'a /t/; Dah. /dl/

Reflexes in non-initial position:

Ir. /t/ (*n_ɬ); Dah. /t/

There are two choices for the reconstructed etymon of this set, *n_L or *dl. No outright maintenance of nasalization appears in any of the initial reflexes today, but the solution *n_L seems nonetheless preferable. *n_ɬ has been chosen as the phonological representation of the segment, since by the pattern of the prenasalized consonants the item should consist of nasal plus voiceless liquid, and it is *t that fills the voiceless slot in the liquid set (see section XI below). The postulation of *n_ɬ would require no additional rules other than those needed in any case to explain the rest of the sound shifts deriving each modern Southern Cushitic languages from proto-Southern Cushitic, except for a proto-Rift surface phonetic change in the realization of *n_ɬ initial from [n_ɬ] to [n_ɬ]. In contrast, an original *dl would require at least three special and separate rules, in Mbuguan, Kw'adza, and proto-West Rift, and, pressing the bounds of credibility, each rule would have the identical statement *dl → tl. A reconstructible *n_ɬ would also turn the proto-Southern Cushitic root for "thin" (Table 1, V.F.1) into a morphologically transparent shape *n_ɬaan_ɬah-, derivable from an underlying CVC- stem *n_ɬaah- with the common Southern Cushitic operation of partial reduplication for "feminine" or diminutive sense (Chapter 5, section VIII) and with regular shortening of second stem vowel upon reduplication (also Chapter 5, section VIII). Original *dl, on the other hand, would yield an unanalyzable shape *dlaa_ɬah- with successive different laterals in the same stem, a sequence not otherwise known in proto-Southern Cushitic and possibly phonologically impermissible. Moreover, *n_ɬ would fit perfectly within the overall reconstructible consonant system of proto-

Southern Cushitic
has been reconstr

34. *n_ɪ

Reflexes in initial

Bur. /č'/; Kw.

Reflexes in non-

Ir. /ts'/, Bur.

35. *n_k

Reflexes in initial

Ir., Bur., /k/;

Reflexes in non-

Ir. /k/, Bur. /

Comments:

Occasional M

rule affecting

36. *n_kw

Reflexes in initial

Ir., Bur., Al

Reflexes in non-

Ir. /q/ (under

Comments:

Ma'a voicing c

12 above.

In addition to th
non-initial nasal clu
vocabulary (Tables

mp'

mf

mb

Other non-initial s
sequence *nx (/nk
consonant could po
nasal, and that the f
the following arran

mp'

mf

mb

nt'

ns

nd

Southern Cushitic (see section XI below), whereas *dl would remain an anomaly. Hence, *nɫ has been reconstructed.

34. *nty

Reflexes in initial position:

Bur. /č'/; Kw'. /č'/; Ma'a /t/; Dah. /nd/

Reflexes in non-initial position:

Ir. /ts'/, Bur. /č'/; Kw'. /č'/, /ɖ/; Ma'a /nt/; Dah. /nt/

35. *nk

Reflexes in initial position:

Ir., Bur., /k/, /g/; Kw'. /k/, /g/; Ma'a /g/; Dah. /ng/

Reflexes in non-initial position:

Ir. /k/, Bur. /k/, /g/; Kw'. /k/; Ma'a /nk/, /ng/; Dah. /nk/

Comments:

Occasional Ma'a voicing of non-initial *nk can be attributed to the general Ma'a voicing rule affecting other voiceless velars; see #12 above.

36. *nkʷ

Reflexes in initial position:

Ir., Bur., Alagwa /kʷ/; Kw'. /k/ (< *kʷ); Ma'a /gw/; Dah. /ng/ (< *ngʷ/)

Reflexes in non-initial position:

Ir. /q/ (underlying *kʷ); Kw'. /k/ (*kʷ); Ma'a /ng/; Dah. /nk/ (underlying *nkʷ)

Comments:

Ma'a voicing of its known reflexes can be attributed to a more general rule, for which see #12 above.

In addition to the eight prenasalized segments which could occur initially, the following non-initial nasal clusters have been recognized in the reconstructible proto-Southern Cushitic vocabulary (Tables 1 and 2):

mp'	nt'	ntl	nty'	nk'	nkʷ'	nh
mf	ns			nx		
mb	nd			ng		

Other non-initial sequences *nx and *nh are known from proto-Rift, and examples of the sequence *nx (/nk/) from Dahalo. The pattern of these occurrences suggests that each oral consonant could potentially be joined in non-initial environments with a preceding homorganic nasal, and that the full range of items which may eventually turn up in future studies could have the following arrangement:

mp'	nt'	(nt')	(nts')	ntl	nty'	nk'	nkʷ'	nh
mf	ns	--	--	--	(nš)	nx	(nxʷ)	nh
mb	nd	--	(ndz)	--	(ndy)	ng	(ngʷ)	--

Slots where no simple oral consonant can be reconstructed for proto-Southern Cushitic, and where therefore no equivalent cluster is probable, have been marked with dashes (—); whereas items possible but not yet attested are shown in parentheses. Pre-Southern Cushitic *nr clusters apparently fell together with *nd and so did not exist in proto-Southern Cushitic, as the example of proto-Southern Cushitic “tongue” suggests (Table 1, IX.A.6, and Chapter 5, section VIII, below). Examples of possible *nl are as yet unknown; most probably such cases, if any, will be found to have joined *nr in a general shift, NL → *nd where L is voiced. No postlingual equivalent *n² of the prenasalized series can be reconstructed, and similarly no medial *n^c. The reason here would seem to be that the –VNVC→ –VNC– rules—credited in Chapter 2, section I, and Chapter 5, section VIII, with producing pre-Southern Cushitic non-initial NC clusters—did not effect VNV {^c} sequences (e. g., preservation of –VNV^c—in Table 1, I.E.6). Since *nr, *nl, and *n^c are not therefore to be expected, their slots in the scheme above have also been marked by dashes.

The potential cluster *nd has been so marked as well. It should not be discernible in any case on the basis of Southern Cushitic data alone, since it appears from the rules for retroflex consonants in Chapters 6–10 that its reflexes in each language would be identical with those of *nd. But, in addition, there is one bit of wider comparative evidence already available which suggests that although the cluster equivalent to *nd was indeed present in earlier Cushitic, it did not in fact exist in proto-Southern Cushitic but had already fallen together with *n. For this piece of evidence, see Table 2, #125 where a proto-Southern Cushitic root *^camfa is reconstructed, with the possible meaning “saliva,” as deriving from underlying *^canVf—where Eastern Cushitic cognates would require derivation of medial *n from earlier *nd.

The non-initial clusters would have fallen, as the modern Dahalo and Rift phonologies show, on the boundaries between syllables, with the nasal attaching to the preceding CV and the oral element to the following V. The same realization would have applied to the non-initial allophones of the prenasalized consonant series.

With the exception of *mp non-initial, which shifted to proto-Rift *b (see Chapter 6), the Rift reflexes of the nasalized series and non-initial NC sequences can be explained by just two rules. The first rule voiced phonetically the oral element of an initial prenasalized consonant when the succeeding consonant was a nasal, while the subsequent rule deleted nasality in all positions where the oral element was a phonologically voiceless (although sometimes realized initially as voiced because of the first rule) stop, ejective or not, or was *tl. Deletion of nasality was blocked for non-initial *nt clusters because of the continuing productiveness of the –VmVt→ –Vnt– morphophonemic rule in early Rift speech (for which, see Chapter 5 below).

Ma’a reflexes of the prenasalized set and non-initial clusters can be produced by a set of three rules. A sequence of two rules voiced initial clusters throughout and then deleted nasality initially. The third rule deleted nasals preceding a continuant.

The Dahalo reflexes of these etymons are described by four rules. The earliest rule shifted wholly voiced non-initial clusters to the equivalent nasal, while three later rules respectively voiced initial prenasalized segments, shifted *f and *x to their equivalent voiceless stop after a nasal, and deleted nasal before the remaining fricatives (*t and *s examples are known).

The new set of
certain and one

37. *dz

Reflexes:

Ir., Alagwa

All reflexes ex
Burunge and Asa

39. *ts’

Reflexes in ini

Ir. /ts’/, Bur

Reflexes in non

Ir., Bur. /s/

All but the Ma’a
of an affricate; bo
Dahalo forms req
originally voicele
affricate *ts’, with

The probable b
From the rules w
alveolars and the
become *s in pro
Chapter 9). In co
unchanged from
would be preserve
has been noted so
other sound corr
affecting the langu
listed as a lone, pr
1, IV.B. In addi

39. *ts

Reflexes:

Bur., Alagwa

The remaining t
postlingual (laryng
members, *l, *t, *

VII

The new set of consonants, the affricates, introduced by the mention above of *n_{ts}, had two certain and one other possible member in addition to the prenasalized entry.

37. *dz

Reflexes:

Ir., Alagwa /ts'/, Bur. /č'/; Kw'. /dz/, Asa /j/; Ma'a /z/; Dah. /dz/

All reflexes except that of Ma'a show the etymon to have been an affricate; all but those of Burunge and Asa, to have been alveolar; and all but West Rift, to have been voiced; hence *dz.

39. *ts'

Reflexes in initial position:

Ir. /ts'/, Bur., Alagwa /č'/; Kw'. /č'/, Asa /j/; Ma'a /s/; Dah. /ts'/

Reflexes in non-initial position:

Ir., Bur. /s/; Kw'. /s/, Asa /j/; Ma'a /z/; Dah. /ts'/

All but the Ma'a reflexes and the Iraqw and Kw'adza non-initial reflexes favor reconstruction of an affricate; both Dahalo and Rift evidence favor an ejective articulation; while Ma'a and Dahalo forms require an alveolar articulation, and evidence from all three branches indicates an originally voiceless pronunciation; hence its reconstruction as the voiceless alveolar ejective affricate *ts', with Dahalo as usual preserving the original shape of ejectives.

The probable but not yet solidly proven member of the set would be the simple affricate *ts. From the rules worked out in Chapters 6–10 to explain the sound shifts among the other alveolars and the palatals, it can be expected that a proto-Southern Cushitic *ts would have become *s in proto-Rift (proto-Rift rule #5, Chapter 6) and /s/ in Ma'a (Mbuguan rule #6, Chapter 9). In contrast, Dahalo's preservation of the other alveolar affricates *dz and *ts' unchanged from their proto-Southern Cushitic originals suggests that hypothetical *ts too would be preserved in Dahalo. Exactly that initial correspondence of Dahalo /ts/ with Rift *s has been noted so far in a single cognate set, a quadriconsonantal reconstruction where every other sound correspondence, vowel or consonant, can be explained by the regular rules affecting the languages concerned. So strong, therefore, is the example overall that it has been listed as a lone, provisional example of a proposed proto-Southern Cushitic initial *ts in Table 1, IV.B. In addition one strong case of non-initial *ts can also be proposed (I.F.1).

39. *ts

Reflexes:

Bur., Alagwa /s/; Kw'adza /s/; Dahalo /ts/

VIII

The remaining ten proto-Southern Cushitic consonants divide into liquid (lateral and flap), postlingual (laryngeal, pharyngeal, glottal), and semi-vowel sets. The first of these has five members, *l, *ɭ, *tl, and *r, along with *nɭ already discussed above.

40. *l

Reflexes in initial position:

/l/ in all Southern Cushitic languages

Reflexes in non-initial position:

Ir., Bur., Alagwa /l/, /r/; Kw., Asa /l/; Ma'a /l/; Dah. /l/

41. *t

Reflexes in initial position:

/t/ in all languages, except for two instances where Winter records Asa /l/, but which may be errors

Reflexes in non-initial position:

Ir., Bur., Alagwa /t/; Kw., Asa /t/, /l/; Ma'a /t/; Dah. /t/

Comments:

East Rift languages apparently voiced *t after non-continuant labials and some alveolars.

42. *tl

Reflexes:

Ir., Bur., Alagwa /tl/; Kw. /tl', /ʔ/, Asa /d/, /r/; Ma'a /t/; Dah. /tl'/

Comments:

Kw'adza shifted *tl to /ʔ/ in some non-initial contexts:

see Chapter 8. Asa has /r/ as its verb-stem final reflex and in rare initial environments, for which again see Chapter 8.

43. *r

Reflexes in initial position:

Ir. /d/, Bur., Alagwa /r/; Kw. /d/, Asa /r/, /d/, /l/; Ma'a /r/; Dah. /r/

Reflexes in non-initial position:

Ir., Bur., Alagwa /r/; Kw. /l/, Asa /r/; Ma'a /r/; Dah. /r/, /l/

IX

There were four proto-Southern Cushitic segments with laryngeal/ pharyngeal or other postlingual points of articulation: *c, *ʔ, *h, and *h.

44. *c

Reflexes:

Ir., Bur., Alagwa /c/; Kw., Asa /ʔ/; Ma'a /ʔ/; Dah. /c/

45. *ʔ

Reflexes in initial position:

Ir., Bur., Alagwa ∅ (or [ʔ]; Kw. ∅, Asa /ʔ/; Ma'a /ʔ/; Dah. /ʔ/

Reflexes in non-initial position:

Ir., Bur., Alagwa /ʔ/; Kw. /ʔ/, ∅, Asa /ʔ/; Ma'a /ʔ/; Dah. /ʔ/

Comments:

Ma'a word-initial and 2), but still initial feature in Ma'a end in

The only question with Southern Cushitic there seems to be a otherwise beginning initial, while Winter glottal stop in that and ʔ constitute or specific examples of with Southern Cushitic the prefix from the turns up, e. g., *yah* large Dahalo set of stems, while a small Ma'a corroborates reconstruct two southern both Ma'a and Dahalo consonant.

The Dahalo initials Southern Cushitic, Moreover, there has contrastive with ʔ-initial clearly be seen in Dahalo becoming Dahalo *h* examples demonstrate effects of stem structure

Proto-Southern Cushitic *ʔ/*h, *y/*ʔ, and * same factors produced

What can be tentatively only non-initial, but earlier vowel-initial attachment of certain cases the preferred defective non-initial in place of or in addition Southern Cushitic, 1,X.B.102), reinforced remained into later er

Comments:

Ma'a word-initial /ʔ/ is not marked in the usual orthography (and therefore not in Tables 1 and 2), but shows up in speech contexts. It has probably become a predictable word-initial feature separating an otherwise vowel-initial word from a preceding word (all words in Ma'a end in a vowel).

The only question here is whether *ʔ should be reconstructed for word-initial contexts in proto-Southern Cushitic. Evidence from Rift does not resolve the issue. In West Rift languages there seems to be a free alternance between articulating Ø (zero) or [ʔ] at the beginning of all words otherwise beginning with a vowel. The same sort of roots in Kw'adza are treated as simply vowel-initial, while Winter's evidence for Asa suggests in contrast a general articulation of an initial glottal stop in that language. But both the Dahalo and Ma'a evidence support that contrastive Ø and ʔ constitute or once constituted a truly felt distinction in Southern Cushitic. Ma'a shows specific examples of a former stem-initial ʔ/Ø contrast in its combining of adopted Bantu prefixes with Southern Cushitic roots: A large set of words where /ʔ/ (written /ʔ/) separates the vowel of the prefix from the first vowel of the stem contrasts with a small set where no such glottal stop turns up, e. g., *yahli/mahli* (i + ahli/ma + ahli), "mother animal (singular/plural)." Similarly a large Dahalo set of ʔ-initial words correspond to Rift Ø or [ʔ]-initial roots and to Ma'a ʔ-initial stems, while a small set of /h/-initial words correspond to other Rift Ø or ʔ-initial roots. Though Ma'a corroboration of the latter linkage is as yet lacking, it seems nevertheless necessary to reconstruct two source segments for the Dahalo/Rift correspondences—one clearly *ʔ-initial as both Ma'a and Dahalo require and the other presumably Ø-initial, that is, lacking a stem-initial consonant.

The Dahalo initial /h/ in the latter set of cases could reflect an old h/ʔ alternance in proto-Southern Cushitic, except that Dahalo consistently shows /h/ where the others do not. Moreover, there has been an ongoing persistence in Dahalo of an ability to perceive Ø-initial as contrastive with ʔ-initial, the latter permissible and the former not in Dahalo phonology, as can clearly be seen in Dahalo treatment of borrowed vowel-initial Bantu words, e. g., Swahili *arusi* becoming Dahalo *harusi* and, alternatively, Pokomo *ivu* becoming ʔiβu. The first of the two examples demonstrates the plausibility of attributing some Dahalo initial /h/ to epenthetic effects of stem structure rules on originally vowel-initial roots.

Proto-Southern Cushitic had as well a number of instances of reconstructible initial-only *ʔ/*h, *y/*ʔ, and *y/*h alternances, the presence of which can be suggested to be due to the same factors producing the postulated vowel- versus ʔ-initial roots.

What can be tentatively proposed is that at one time in pre-Southern Cushitic *ʔ occurred only non-initial, but that by the proto-Southern Cushitic period a process had set in of bringing earlier vowel-initial roots into the general pattern of CVC- and CVCVC- stems by epenthetic attachment of certain consonants in the previously unfilled first-consonant positions. In most cases the preferred consonant was *ʔ because its application would balance its previously defective non-initial only occurrence, but in a number of instances *h or *y came to be applied in place of or in addition to *ʔ—hence the various alternances. At the same time loanwords into Southern Cushitic, some at least from a Khoisan language (see Chapter 2, II, and Table 1, X.B.102), reinforced the declining body of Ø-initial roots, such that a few such roots remained into later eras. In Dahalo they were eventually incorporated into general stem-pattern-

ing by addition of /h/; in Rift languages they fell together with ʔ-initial roots. In Ma'a, however, the *ʔ/∅ contrast in initial position appears to have become a stable one which lasted down to recent centuries when Ma'a began to add Bantu prefixes. Still later, glottal stops began to be inserted predictably between all conjoinings of vowels (hence /ʔ/ in Ma'a reflexes in Table 1, IX.B.104 and 105).

46. *h

Reflexes in initial position:

Ir., Bur., Alagwa /h/; Kw' /h/, Asa /h/, /ʔ/; Ma'a /h/; Dah. /h/

Reflexes in non-initial position:

Ir., Bur., Alagwa /h/; Kw'., Asa /h/, ∅; Ma'a /h/, ∅; Dah. /h/

47. *h

Reflexes in initial position:

Ir., Bur., Alagwa /h/; Kw' /h/, Asa /h/, /ʔ/; Ma'a /h/; Dah. /h/

Reflexes in non-initial position:

Ir., Alagwa /h/, Bur. ∅; Kw'., Asa /h/, ∅; Ma'a /h/, ∅; Dah. /h/, ∅

Comments:

Iraqw drops *h only in certain morphological operations, while Burunge deletes medial *h in most contexts. Each of the other languages drop *h in some environments but not in others, each particular language according to different rules, for which see chapters 6-10.

X

Finally, proto-Southern Cushitic had two semi-vowels, *w and *y.

48. *w

Reflexes:

/w/ in all Southern Cushitic languages

49. *y

Reflexes:

Ir., Bur., Alagwa /y/; Kw'., Asa /y/; Ma'a /y/; Dah. /j/, /dzdz/

Comments:

/dzdz/ is the reflex of geminated medial *y. Rarely a [y] variant of the /j/ reflex has been noted.

XI

With slight modifications of the categories, the phonological pattern which emerged in the analysis of the first 39 proto-Southern Cushitic consonants can be applied to the remaining ten. The voiced and voiceless stop categories can be renamed "voiced" and "voiceless" respectively; the ejective class renamed "emphatic"; and a semi-vowel category added. With these modifications the reconstructed consonants can be organized as follows:

LABIAL

VOICED	b
VOICELESS	p
EMPHATIC	p'
FRICATIVE	f
NASAL	m
PRENASAL	mp
SEMI-VOWEL	w

The consonant *r has labialization in certain environments, and so the labialized consonants are included in the fricative row in condition

Labialization of velar consonants is also found, and so the labialized consonants are included in the fricative row in condition. That constraint is a single exception of Ma'a in addition to the velars, /o/. When back vowels are immediately preceded by any immediately preceding situation which continues

The consonants here are of the proto-Southern Cushitic. The possibility that one more addition to the likelihood of fricative *ʃ seems within

l roots. In Ma'a, however, one which lasted down to tatal stops began to be inserted in Table 1, IX.B.104

	LABIAL	ALVEOLAR				VELAR		POST-LINGUAL
		(regular)	(retroflex)	(affricate)	(liquid)	(non-labial)	(labialized)	
VOICED	b	d	ɖ	dz	l	(dʏ?)	g ^w	ɕ
VOICELESS	p	t	ɖ̥	(tsʔ)	ɭ̥	tʏ	k ^w	ʔ
EMPHATIC	pʰ	tʰ	ɖʰ	tsʰ	tl	tʏʰ	kʰ	h̥
FRICATIVE	f	s			r	ʃ	x ^w	h
NASAL	m	n				nʏ	ŋ	
PRENASAL	mp	nt	nɖ	nts	nɭ	ntʏ	nkw	
SEMI-VOWEL	w					y		

The consonant *r has been grouped with the "fricatives" because it joins other members of the fricative row in conditioning two particular vowel shifts in Ma'a (see Chapter 9).

Labialization of velars was impermissible before back vowels in proto-Southern Cushitic, and so the labialized consonants can be found only before reconstructible central and front vowels. That constraint has remained in effect in all the Southern Cushitic languages with the single exception of Ma'a in which later rules have spread labialization to a variety of consonants in addition to the velars, and preceding /u/ as well as non-back vowels, although still not before /o/. When back vowels have been produced by Dahalo or Rift sound shifts, on the other hand, any immediately preceding labialized velar has automatically deleted the labialization, a situation which continues to operate today.

The consonants here reconstructed cannot be claimed to be a certain and exhaustive lay-out of the proto-Southern Cushitic system, for what the reconstructed pattern indicates is the possibility that one more consonant may yet turn up in fuller collections of evidence. In addition to the likelihood of proto-Southern Cushitic *ts, discussed above, an alveolar retroflex fricative *ʃ seems within the realm of possibility.

VOWELS AND TONE IN PROTO-SOUTHERN CUSHITIC

I

It appears necessary on present evidence to reconstruct a proto-Southern Cushitic system of seven vowels,

i	i	u
e	Λ	o
	a	

each occurring both long and short. More than 40 % of Southern Cushitic vowel reconstructions are *a, while *u, *i, *o and *e account for between 10 % and 15 % apiece. Suggested occurrences of the high and mid central vowels are extremely rare, so far numbering less than 50 in all. These latter may eventually be explained away by postulation of vowel alternances and by rules whose contexts are not yet visible. But for now, despite their rarity, high and mid central vowels remain necessary postulates.

What is also suggested by the relative proportions of vowels is the possibility that the proto-Southern Cushitic system derived from a still more ancient three-vowel pattern. If the front and back vowel sets were split from single underlying front and back segments, then the combined occurrences of *u and *o and of *i and *e would come more into line with that of *a. But in any case in proto-Southern Cushitic these were all well-established, distinct elements whatever their earlier derivations might have been.

The vowel correspondences of Southern Cushitic, as for most language families, are much more complex than those of the consonants. Special problems in this instance are the variety of vowel assimilation and dissimilation rules which have operated, sometimes at cross purposes, in the various Southern Cushitic tongues. Discussion of these and other rules is taken up in Chapters 6–10. Listed below are the vowel reflexes if assimilation or dissimilation has not affected them. The most frequent reflex is listed first. Note that reconstructed long vowels have been indicated by a digraph.

1. *i

Reflexes:

Ir., Bur., Alagwa /i/; Kw'., Asa /i/; Ma'a /i/; Dah. /i/

2. *u

Reflexes:

Ir., Bur., Alagwa /u/; Kw'., /u/, /o/, Asa /u/; Ma'a /u/, /o/; Dah. /u/

3. *ii

Reflexes:

Rift languages /i/; Ma'a /i/; Dah. /ii/

4. *uu

Reflexes:

Rift languages: same

5. *e

Reflexes:

Ir., Bur., Alagwa /e/

6. *o

Reflexes:

Ir., /o/, /u/, /a/, B

Comments:

Proto-Southern Cus

*o → /a/ independ

7. *ee

Reflexes:

Rift languages: see *

8. *oo

Reflexes:

Rift languages: see *

9. *a

Reflexes:

Ir., Bur., Alagwa /a/

10. *aa

Reflexes:

Rift languages: see *

The proposed high and evidence it is not yet possi ences attest the reconstru

(a) Ir., Bur., Alagwa /u/

(b) Ir. /ay/, Bur., Alag

(c) Ir., Bur., Alagwa /ay/

In East Rift languages, as depends on the consona unlabialized velars where affecting any /e/ or /o/, in Ma'a treats all three sets as the underlying situation. V suffice for the three sets c

CUSHITIC

Southern Cushitic system of

Cushitic vowel reconstruction
d 15 % apiece. Suggested
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vowel alternances and by
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back segments, then the
into line with that of *a.
lished, distinct elements

language families, are much
instance are the variety of
etimes at cross purposes,
ther rules is taken up in
or dissimilation has not
ructured long vowels have

4. *uu

Reflexes:

Rift languages: same as for *u; Ma'a /u/, /o/; Dah. /uu/

5. *e

Reflexes:

Ir., Bur., Alagwa /e/, /i/; Kw'., Asa /e/, /a/, /i/; Ma'a /e/, /a/; Dah. /e/, /i/, /a/

6. *o

Reflexes:

Ir., /o/, /u/, /a/, Bur., Alagwa /o/, /u/; Kw'., Asa /o/, /a/; Ma'a /o/, /a/; Dah. /o/

Comments:

Proto-Southern Cushitic apparently had an unrounded allophone of *o before *x because
*o → /a/ independently before *x in Ma'a and in proto-Rift (see chapters 6, 9).

7. *ee

Reflexes:

Rift languages: see *e; Ma'a /i/; Dah. /ee/

8. *oo

Reflexes:

Rift languages: see *o; Ma'a /u/; Dah. /oo/

9. *a

Reflexes:

Ir., Bur., Alagwa /a/; Kw'., /a/; Ma'a /a/, /e/, /u/, /i/; Dah. /a/, /o/

10. *aa

Reflexes:

Rift languages: see *a; Ma'a /a/, /o/; Dah. /aa/, /ee/

The proposed high and mid central vowels rest on less solid and copious evidence, but evidence it is not yet possible to explain in any other manner. Three sets of vowel correspondences attest the reconstructions:

- (a) Ir., Bur., Alagwa /u/; Kw'., Asa /e/, /i/, /o/, /u/; Ma'a /u/; Dah. /i/;
- (b) Ir. /ay/, Bur., Alagwa /e/, /i/; Kw'., Asa /e/, /i/, /o/, /u/; Ma'a /e/; Dah. /a/
- (c) Ir., Bur., Alagwa /ay/; Kw'., Asa /e/, /i/, /o/, /u/; Ma'a /o/; Dah. /i/

In East Rift languages, as can be seen, all three sets have fallen together. The choice of reflex depends on the consonantal environment. The normal reflex is /e/ except following unlabialized velars where it is /o/. The reflexes /i/ and /u/ arose through secondary sound shifts affecting any /e/ or /o/, including those deriving from the central vowels. At the other extreme, Ma'a treats all three sets as distinct, as do Burunge and Alagwa. Neither pattern seems to reflect the underlying situation. What seems rather to be the case is that just two vowel reconstructions suffice for the three sets of correspondences.

/u/, /o/; Dah. /u/

Set (a) occurs through a wide variety of consonant environments. The vowel reconstruction chosen for it is a rounded high vowel *ɨ because—except for the East Rift evidence where both central vowels have fallen together—the reflexes are all high and, in two of the branches, rounded (/u/), with only Dahalo showing a front reflex.

In contrast, sets (b) and (c), as far as is known, have complementary distributions with respect to preceding consonants: (b) after proto-Southern Cushitic labials and voiceless non-labial consonants, and (c) after voiced non-labials. Set (c) also appears after *tl, but as shown in Chapter 2, section I, proto-Southern Cushitic *tl can be derived from a pre-Southern Cushitic voiced segment, most immediately from *dl; hence the complementary distribution of (b) and (c) as regards nonlabials apparently developed prior to devoicing of earlier *dl. The vowel reconstruction for (b) and (c) combined has been rendered as a mid central vowel *ʌ because the overall distribution of reflexes requires a lower tongue position than do those of set (a).

The complementarity of the two sets of reflexes reveals an allophonic variation attributable to proto-Southern Cushitic *ʌ. Although the Dahalo examples, in which the allophone of set (b) fell together with the low central *a and the allophone of (c) with the high central vowel *ɨ (modern Dahalo /i/), might seem to favor original higher and lower allophones, the Ma'a reflexes of the two, respectively /e/ and /o/, and the Burunge and Alagwa reflexes better support the postulation of an original unrounded/rounded allophony, respectively [ʌ] and [ɤ]. What is more, an unrounded/rounded distinction allows a more elegant explanation even for the Dahalo reflexes. The Dahalo collapsing of one allophone with *ɨ and the other with *a requires only a single rule if it is seen that the rounded allophone fell together with the rounded central vowel *ɨ and the unrounded allophone with the unrounded central vowel *a. Postulation of unrounded/rounded allophony also makes the general presence of the unrounded allophone after labials understandable as a dissimilation shift. The motivation of the voiceless complementarity of the majority of [ʌ] and [ɤ] remains, however, unexplained.

A few long central vowels (*ɨɨ and *ʌʌ) appear reconstructible, and thus both vowels are tentatively assumed, like the other five vowels, to have occurred both long and short in proto-Southern Cushitic.

II

Lexical tone, with a few exceptions, has ceased to be phonologically significant in the Rift languages; tonal reconstruction depends therefore on Dahalo and Ma'a data. As is quite clear from W. H. Whiteley's evidence if not his discussions, what passes for tone in Iraqw is in most cases syntactically determined intonation. Words fitting the preposition category are all tonally high-high in Whiteley's reckoning, for example; whereas the great majority of nouns in isolation are pronounced with the final syllable low, the penultimate syllable falling, and any preceding syllables high. Genitive relationship between two nouns, to give another example, is established by placing the possessed noun first, with high tone on the last syllable and low tone on all preceding syllables, followed by the possessor noun with normal noun-in-isolation intonation; *ashbaynamó hlā'a* "pig of the bush." There are very few exceptions to perfect tonal predictability in Iraqw; these seem all to be nouns, most of which can be shown to be loan-words, primarily from Dadog. (Moreover, I heard these distinctions not as tone but as stress.)

Burunge and Alagwa app of intonation probably intonations are identical noun-in-isolation pattern West Rift tongues. In th where Iraqw would have with those of the West Ri taken place in the proto-

Dahalo and Ma'a, on t system. In Dahalo there syllable length. A two-sy the patterns high-low, low-high-low, or low-lo the complexity can be a derivation in Ma'a again Dahalo and Ma'a tones in word-tones, falling, ris

Dahalo reflexes noted distinctiveness. Ma'a cas environments shown are

1. *+ (falling)

Realization: as high to

Reflexes:

Ma'a C
C
C
C

2. *- (rising)

Realization: as high to

Reflexes:

Ma'a C
C
C
C

3. *\ (level)

Realization: as low to

Reflexes:

Ma'a C
C
C
C

The number of instan probable that many if not

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East Rift evidence where both
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als and voiceless non-labial
*t, but as shown in Chapter
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tribution of (b) and (c) as re-
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wel *A because the overall
of set (a).

ic variation attributable to
ich the allophone of set (b)
the high central vowel *i
wer allophones, the Ma'a
nd Alagwa reflexes better
, respectively [A] and [x].
gant explanation even for
*i and the other with *a
together with the rounded
nded central vowel *a.
l presence of the unroun-
e motivation of the voice/
, however, unexplained.
and thus both vowels are
long and short in proto-

lly significant in the Rift
a'a data. As is quite clear
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ceptions to perfect tonal
n be shown to be loan-
ot as tone but as stress.)

Burunge and Alagwa appear to have equal predictability of intonation and their actual patterns of intonation probably closely resemble those of Iraqw. Their normal noun-in-isolation intonations are identical, in any case. East Rift languages are less well known, but the noun-in-isolation patterns of Kw'adza are entirely predictable and remarkably similar to those of West Rift tongues. In three-syllable words Kw'adza shows the tone pattern high-low-low, where Iraqw would have high-falling-low, but elsewhere it tends to show patterns identical with those of the West Rift group. The disappearance of significant lexical tone must thus have taken place in the proto-Rift language.

Dahalo and Ma'a, on the other hand, retain visible reflexes of the proto-Southern Cushitic system. In Dahalo there seem never to be more than three possible tonal patterns for each syllable length. A two-syllable word, the shortest independent unit of Dahalo speech, can have the patterns high-low, low-high, or low-low; a three-syllable word, high-low-low, low-high-low, or low-low-low; and so on. Ma'a patterns are much more complex, but most of the complexity can be attributed to Bantu loanwords. Words of old Southern Cushitic derivation in Ma'a again never have more than three possible patterns. The comparison of Dahalo and Ma'a tones in specific words thus yields a proto-Southern Cushitic system of three word-tones, falling, rising, and level. The last of these three was extremely rare.

Dahalo reflexes noted below are based on non-verb vocabulary, since verbs have lost tonal distinctiveness. Ma'a cases are drawn, however, from the whole range of vocabulary. The environments shown are complete word environments.

1. *+ (falling)

Realization: as high tone in first syllable and low tone thereafter.

Reflexes:

Ma'a	CV̌	Dahalo	—
	CV̌CV		CV̌CV
	CVCVCV̌		CV̌CVCV
	CVCVCV̌CV		CV̌CVCVCV

2. *- (rising)

Realization: as high tone in the second syllable and low tone elsewhere.

Reflexes:

Ma'a	CV	Dahalo	—
	CVCV̌		CVCV̌
	CVCV̌CV		CVCV̌CV
	CVCV̌CVCV(?)		CV̌CVCV̌CV

3. *\ (level)

Realization: as low tone throughout

Reflexes:

Ma'a	CV̌CV̌	Dahalo	CVCV
	CVCVCV̌		CVCVCV̌
	CVCVCV̌CV̌		CVCV̌CVCV(?)

The number of instances of level word-tone, as indicated, are very few, and it is quite probable that many if not most of the few instances will eventually be proven to be loanwords in

proto-Southern Cushitic. Other cases of what appear to be reflexes of level word-tone in particular languages derive from rising tone verb stems, which in the shape CVC- would be pronounced CVČ-, plus later suffixation bearing low tone: hence resulting shapes CVCV̌ (CVČ) from original *CVČ- can turn up in Ma'a and Dahalo. Some cases of level word-tone in proto-Southern Cushitic may thus have a similar origin.

Three other rare sets of tone correspondences have been noted. A few pronomial roots show Ma'a CVCV̌ and Dahalo CVCV̌ equivalents. Presumably syntactic conditions no longer operative generated a *CVCV̌ > CVCV̌ shift in earlier Mbuguan. A single instance of Ma'a CVCV̌ matching Dahalo CVCV̌ appears (Table 1, IX.D.13), but again earlier syntactic contexts may have been responsible, since the particular root possibly originated as a conjunction. Once again the Dahalo shape, because it fits the general patterns, has been taken as indicative of the reconstructible tone. Finally, two cases of tone reversal in #CVNVCV̌# shapes in Ma'a, of the form C₁VNVCV̌ > C₁V̌NVCV̌ where C₁ is a voiced labial, have been identified (Table 1, I.A.57 and E.39); full determinants of the shift remain to be established.

Given a language, then, with normal stem structure C(V), CVC-, and CVCVC-, as will be shown in the chapter following, and with word-tone patterns which normally put emphasis only on the first syllable of a word or only on the second, it becomes highly probable that we are dealing not with a tonal language at all, but with a stress language having two stress levels. It can thus be hypothesized that proto-Southern Cushitic was a language only just beginning to shift from stress to tone through the addition of a new intonation pattern seen in the rare level-tone roots. Only Ma'a has become unambiguously tonal at the syllable level. Dahalo maintains in its non-verb lexicon patterns reminiscent of its proto-Southern Cushitic ancestry, while the Rift languages have become languages in which tone is an important but usually predictable component of syntax.

WORD AND MORPH

Words in proto-Southern Cushitic and a suffix.

In nouns and modifiers some instances today in W instance Iraqw *tsamasi* "g Southern Cushitic affixial history), it is apparent th although frequently these The evidence consists of stem consonants in such example, Ma'a *mpare*, "pareh-, via an intermedia forms with and without s where in the first variant s suffix to mark some plural later developments because which is universal in Dah stem and a suffix to mar Cushitic.

Throughout Southern position was both allowab Cushitic languages except numerous instances of no correct to use in speech, al as many as three variant collected.

Multiple suffixation of n Cushitic. Two different s second suffix to change th example, Ma'a adds one of jectives (e. g., Table 1, IX "clean" from *-aku* "white to change meaning or app process of chaining suffixe stem of a word. Dahalo *t' section IV below) with the considerable numbers tog*