

## **Some salient features of Southern Cushitic (Common West Rift)**

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### **Introduction**

The Southern Cushitic languages of Tanzania have puzzled linguists since colonial times when officers and missionaries started collecting lexical and grammatical bits and pieces in the late 19th century and tried to fit them into the slowly emerging picture of African language classification. Greenberg 1963 proposed their affiliation to the Cushitic family of Afroasiatic – a conclusion which had been preshaped by Struck 1911. Although based on very limited lexical data, some general Afroasiatic isomorphs and rough typological considerations, Greenberg's classification survived with only minor modifications regarding its regrouping together with Eastern Cushitic within an East- / South-Cushitic branch (Hetzron 1980, Ehret 1995). Since Whiteley's pioneering work (1958) and Elderkin's outline (1976), knowledge of Southern Cushitic and its grammar has improved considerably by the work of Nordbustad 1988, Mous 1993, Maghway 1989, 1995, Tosco 1989, 1990, 1991, Blažek / Tosco 1994, Elderkin 1988, Elderkin / Maghway 1992 and Kießling 1994. This brief sketch is meant to update Elderkin 1976, to summarize most recent findings in Southern Cushitic grammar and to highlight some future areas of research.

### **Classification**

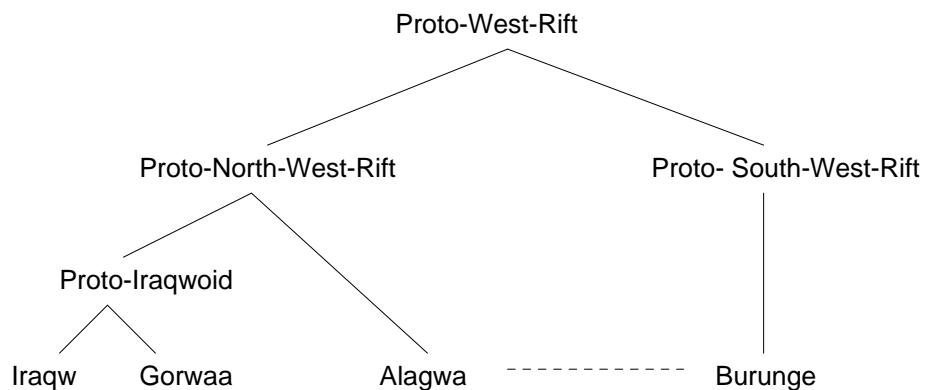
Southern Cushitic comprises of eight languages spoken in Tanzania and Kenya. The most important one is Iraqw with roughly half a million speakers, followed by Gorwaa (100.000), Burunge (30.000), Alagwa (30.000), Mbugu/Ma'a (30.000), Dahalo (400), Asax and Qwadza (extinct, probably rememberers). Their internal classification, as proposed by Ehret 1980: 132), is subject to debate, due to several reasons.

## (1) Southern Cushitic internal classification (Ehret 1980):

Rift-branch:	West-Rift:	North:	IRAQW, GOROWA
		South:	ALAGWA, BURUNGE
	East-Rift:		QWADZA; ASAX
Mbugu-branch:			MA'A
Dahaloan-branch:			DAHALO

There is no doubt that the four closely related languages, Iraqw (Mbulu), Gorwaa (Fiome), Alagwa (Chasi) and Burunge, form the core of Southern Cushitic, but a thorough lexical and grammatical reconstruction within a sociolinguistic framework (Kießling 1999) reveals a slightly different picture of genetic relations:

## (2) Core Southern Cushitic (Kießling 1999):



The position of Qwadza and Asax is dubious, since there is not enough data (and probably never will be) to prove that they belong to a different subbranch within Southern Cushitic; Ma'a has too many admixtures from Bantu languages and is the result of at least two language shifts (Mous 1994, 1996); and Dahalo probably does not belong to Southern Cushitic at all, but seems to be an Eastern Cushitic language (Tosco 1991, Blažek / Tosco 1994) with a Southern Cushitic substrate. Therefore, the subsequent discussion will be restricted to the West-Rift-languages.

The West-Rift languages are spoken in a linguistically highly heterogeneous area in Tanzania and come in contact with representatives of the other three large African language families: Niger-Congo (Bantu: Langi, Mbugwe, Gogo), Nilo-Saharan (Nilotic: Datooga), and Khoisan (Sandawe, Hadza).



## (4) Iraqw SOV word order

*dasi q'aymoo ga dól* "The girl cultivates the field."  
 girl field O3.O3sgf cultivate.3sgf.NPST

## (5) Iraqw noun + attributive adjective

*ħartá t'eer* "a long stick"  
 stick.GEN.F1 long.F

## (6) Iraqw noun + nominal possessor

*marʔír diraay<sup>w</sup>* "the lions den"  
 cave.GEN.F lion

## (7) Iraqw noun + numeral

*múk tám* "three people"  
 people.GEN.M1 three

## (8) Iraqw: noun + demonstrative

*t'aaɣarí* "this rock"  
*t'aaɣa-r-í*  
 rock-F-DEM.near

*t'aaɣarq'áʔ* "that rock"  
*t'aaɣa-r-q'áʔ*  
 rock-F-DEM.far

Not all the West-Rift languages display the same pattern of typological features in these respects. Thus, Iraqw and Gorwaa stick closely to the rigid SOV order under all circumstances, whereas Alagwa (Mous in print) and Burunge (Kießling 1994: 228ff.) allow for a variation of SOV and SVO order depending on pragmatic factors, preverbal position of the object indicating its thematic prominence, clause final position being preserved for new information.

## Phonology

Southern Cushitic languages come up with several specialities, exotic for European ears, but quite common in Afroasiatic. Beside the ordinary voiced and voiceless consonants,

there is a third series of plosives: glottalized or laryngealized stops, mostly realized as ejectives, e.g. *ts'*, *q'*. All four WR<sup>1</sup> languages have retained pharyngeal consonants *ħ* and *ʕ*, which have disappeared in other Cushitic languages<sup>2</sup>. Beside these pharyngeal and glottalized consonants, it is important from an Afroasiatic comparative point of view to note that Southern Cushitic preserved a lateral fricative *ɬ*, which must be reconstructed for Proto-Afroasiatic, because it crops up in the periphery of AA, e.g. in some Chadic languages and in Southern Arabic. The most complex phoneme is an ejective affricate with lateral release *tʃ'*. Other characteristics of the PWR sound system are a series of labialized dorsal consonants, the absence of a series of voiced fricatives, and the low frequency of palatal consonants, except for *y*. Thus, the PWR consonant system comprises of the following 32 phonemes:

(9) The consonant phonemes of PWR

	labial	dental	dental lateral	palatal	velar uvular	labialised velars / uvulars	pharyngeal	glottal
voiceless stops	<i>p</i>	<i>t</i>		<i>(tʃ)</i>	<i>k</i>	<i>k<sup>w</sup></i>		
voiced stops	<i>b</i>	<i>d</i>		<i>(dʒ)</i>	<i>g</i>	<i>g<sup>w</sup></i>		
laryngealized obstruents		<i>ts'</i>	<i>tʃ'</i>		<i>q'</i>	<i>q<sup>w</sup></i>	<i>ħ</i>	<i>ʔ</i>
fricatives	<i>f</i>	<i>s</i>	<i>ɬ</i>		<i>x</i>	<i>x<sup>w</sup></i>	<i>ħ</i>	<i>h</i>
nasals	<i>m</i>	<i>n</i>		<i>(n)</i>	<i>ŋ</i>	<i>ŋ<sup>w</sup></i>		
approximants / liquids		<i>r</i>	<i>l</i>	<i>y</i>		<i>w</i>		

<sup>1</sup> Abbreviations: AA Afroasiatic, AL Alagwa, ANT anterior, BEN benefactive, BU Burunge, CAU causative, COL collective, COM comitative/instrumental, COMPL completive, DCL declarative, DEM demonstrative, DUR durative, F ~ f feminine, FOC focus, GEN genitive, GO Gorwaa, HAB habitual, INSTR instrumental, IPF imperfective, IR Iraqw, M ~ m masculine, MED mediopassive, NPF non-perfective, NPST non-past, O object, PAA Proto-Afroasiatic, PCC preverbal clitic cluster, PF perfective, PL ~ pl plural, PIRQ Proto-Iraqwoid, PNWR Proto-North-West-Rift, PRES present, PRET preterite, PRO progressive, PROS prospective, PWR Proto-West-Rift, S subject, S1/2 subject 1st or second person, SC Southern Cushitic, SGV singulative, SPEC specific, V verb, WR West-Rift.

<sup>2</sup> Not always without leaving assimilatory traces in the vocalic environment (Sasse 1973).

As for vowels, the Southern Cushitic languages, like most Cushitic languages, restrict themselves to the standard five vowel qualities, \*i, \*e, \*a, \*o, \*u, plus a distinctive opposition for vowel length.

In one of the languages, Burunge, a process of grammatically conditioned terminal erosion reduces long final vowels to short ones, and short final vowels to whispered vowels or "vowel-coloured breaths" (as Andrzejewski 1957 puts it for a similar phenomenon in Borana-Oromo), with the result that in final position the length distinction in vowels is shifted to an opposition of short vowels vs. whispered vowels. This process is also exploited for morphosyntactic purposes, e.g. for marking the opposition of declarative vs. interrogative (Kießling 1994: 212ff., Kießling 1996: 66):

(10) Final vowel realization in Burunge

<i>tʰubay</i>	<i>yáa</i>	<i>tʰubiibina</i>	"Was it raining?"
rain	S.3-PRET	rain<DUR><PRO>-3sgm-IPF-Q	
<i>tʰubay</i>	<i>yáa</i>	<i>tʰubiibin<sup>a</sup></i>	"It was raining."
rain	S.3-PRET	rain<DUR><PRO>-3sgm-IPF-DCL	

Suprasegmentally, most Cushitic languages have a pitch-accent-system that works on the morphosyntactic level primarily. There is a phonemic opposition of tone that has the properties of stress insofar as it is assigned, mostly, to a larger domain than the mere syllable, often to the word or a whole phrase. Thus, in Iraqw the tone opposition<sup>3</sup> operating on the final syllable of the finite verb indicates tense/aspect and subject person:

(11) Iraqw tone opposition in verbal inflection

<i>ʔanín</i>	<i>a</i>	<i>gíuu?</i>	"I am asleep."
I	S.1/2	sleep.1sg.NPST	
<i>ʔinós</i>	<i>i</i>	<i>guu?</i>	"He is asleep."
(s)he	S.3	sleep.3sgm.NPST	
<i>ʔinós</i>	<i>aa</i>	<i>gíuu?</i>	"He was asleep."
(s)he	S.3-PAST	sleep.3sgm.PAST	

(12) Iraqw tone opposition as marker of gender distinction in the attributive adjective

<sup>3</sup> High tone is indicated by ´, low tone is without special indication.

<i>dáay</i> <sup>w</sup>	ፊawáak	"white elephant"
elephant.GEN.M	white.M	
<i>ṭér</i>	ፊawaak	"white cow"
cow.GEN.F	white.F	

## Nominal morphology

### Gender

The Southern Cushitic languages generally display a three-way gender-system in nouns, feminine vs. masculine vs. neuter, the morphological exponents of which are old AA morphemes: \**t* for feminine and \**kw* for masculine. Gender is usually not marked on the bare noun itself, but as soon as the noun is modified by demonstrative or possessive suffixes, by nominal possessives or by attributive adjectives, a gender marker intervenes:

- (13) Basic structure of the noun: Noun + gender linker + {possessive suffix, demonstrative suffix}

Burunge gender linkers: -*d* (f), -*g* (m):

<i>mara</i> (m) "house"	<i>tʃ'eedee</i> (f) "blood"
<i>mara-g-ooʔi</i> "my house"	<i>tʃ'eedee-d-ooʔi</i> "my blood"
<i>mara-g-oogu</i> "your (m) house"	<i>tʃ'eedee-d-oogu</i> "your (m) blood"
<i>mara-g-osi</i> "her/his house"	<i>tʃ'eedee-d-osi</i> "her/his blood"
<i>mara-g-oori</i> "our" house"	<i>tʃ'eedee-d-oori</i> "our blood"
<i>mara-g-ooguna</i> "your (pl) house"	<i>tʃ'eedee-d-ooguna</i> "your (pl) blood"
<i>mara-g-ooʔina</i> "their house"	<i>tʃ'eedee-d-ooʔina</i> "their blood"

Alagwa gender linkers: *-r* (f), *-w* (m):

<i>dinu</i> (m) "honey"	<i>ts'eeree</i> (f) "blood"
<i>dinu-w-ii?</i> "my honey"	<i>ts'eeree-r-ii?</i> "my blood"
<i>dinu-w-og</i> "your honey"	<i>ts'eeree-r-og</i> "your blood"
<i>dinu-w-os</i> "her/his honey"	<i>ts'eeree-r-os</i> "her/his blood"
<i>dinu-w-oor</i> "our honey"	<i>ts'eeree-r-oor</i> "our blood"
<i>dinu-w-ookin</i> "your (pl) honey"	<i>ts'eeree-r-ookin</i> "your (pl) blood"
<i>dinu-w-oo?in</i> "their honey"	<i>ts'eeree-r-oo?in</i> "their blood"

The gender affiliation of a noun is a highly complex matter, and it is not thoroughly understood yet; a noun's gender is mostly not predictable from its form, nor its meaning. There is some overlap of sex and gender, as shown in (11), i.e. nouns denoting female beings tend to be feminine, and nouns denoting males are typically masculine. This system also extends into the botanical sector, insofar as masculines usually refer to a single specimen of some plant, shrub or tree, whereas feminines refer to the blossom or the fruit of that plant.

(14) Correspondence of grammatical and natural gender:

Feminine: PWR *\*hadee* "woman, wife", PWR *\*tee* "cow", PWR *\*lega?a* "female goat", PWR *\*hiingaariya* "Solanum incanum fruit"

Masculine: PWR *\*hawata* "man, husband", PWR *\*?awu* "bull", PWR *\*yaq'aamba* "big male animal", PWR *\*gwereta* "he-goat", PWR *\*hiingarimo* "Solanum incanum plant", PWR *\*gwaanda* "ram"

But there are remarkable deviations. Thus, for example the terms for sexual organs display a polarity of natural and grammatical gender. Terms for the male organs tend to be grammatically feminine: PIRQ *\*na?ani* (f) "penis", PSWR *\*firiq'a* (f) id., PSWR *\*gudiya* (f) "testicle"; whereas terms for female organs tend to be grammatically masculine: PIRQ *\*gwalay* (m) "vagina", PSWR *\*q'iindi* (m) id., PWR *\*?isaay* (m) "female breast".<sup>4</sup>

Bodily defects usually trigger grammatical affiliation to the feminine class. Thus, GO *?afawati* (f) "deaf person", PIRQ *\*taampaa* (f) "blind person", IR *daktani* (f) "fool" are grammatically feminine, but may refer to persons of either sex. Nouns for males that

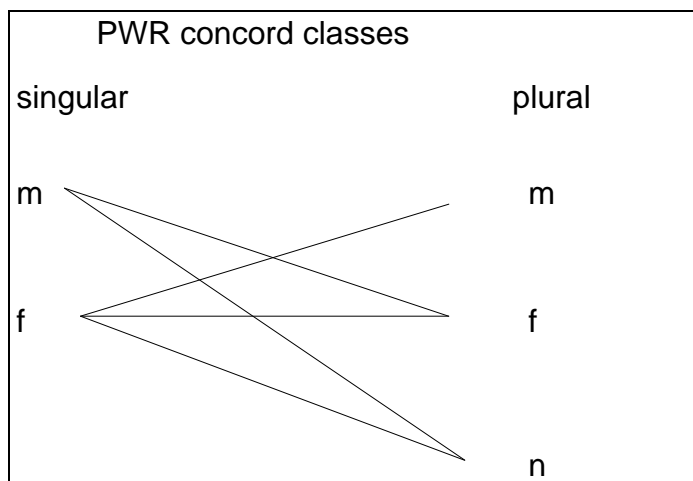
<sup>4</sup> There are exceptions to this polarity of gender and sex, e.g. PWR *\*tsariya* (f) "clitoris", PIRQ *\*?am?amimo* (m) "testicle".



have lost their generative power are grammatically feminine as well: PWR *\*karaama* (f) "castrated animal, ox", PIRQ *\*puq'uli* (f) "sterile bull born without testicles". This rule extends into the social sector as well and reflects the social role of men, as shown by feminine affiliation of IR *foori* (f) "homosexual man, sterile man, sexual pervert". Interestingly, the system is not symmetrical with regard to female referents whose generative power is damaged, those nouns remain feminine: PIRQ *\*soonaa* (f) "barren woman", PSWR *\*ts'aʔata* (f) id., PIRQ *\*sooraari* (f) "female without a womb", *\*ʕaankeeriya* "dry cow, cow that gives no milk".

Above that, grammatical gender is utilized with respect to number marking. All nouns are heterogeneous, that means they change their gender in the course of derivation of plurals, often they reverse their gender, a phenomenon called gender-polarity (Serzisko 1982) and most operative in the Eastern Cushitic languages. The gender switch in the number system gives rise to the following concord classes in Southern Cushitic:

(15) Concord classes of Southern Cushitic (PWR):



Some examples from PWR are shown in (16) and (17).

(16) Feminine singulars derive masculine or neuter plurals:

singular: feminine	plural: masculine (m) or neuter (n)	meaning
* <i>hadee</i>	* <i>tigay</i> (m)	"woman, wife"
* <i>tee</i>	* <i>yak<sup>w</sup>aa</i> (n)	"cow"
* <i>fara</i>	* <i>fararu</i> (n)	"bone"
* <i>fala</i>	* <i>faloo</i> (n)	"skin"
* <i>karaama</i>	* <i>karamu</i> (n)	"castrated animal"
* <i>bahaa</i>	* <i>bahu</i> (n)	"hyena"

(17) Masculine singulars derive feminine or neuter plurals:

singular: masculine	plural: feminine (f) or neuter (n)	meaning
* <i>hawata</i>	* <i>hawatee</i> (f)	"man, husband"
* <i>ʔawu</i>	* <i>ʔawee</i> (f)	"bull"
* <i>yaq'aamba</i>	* <i>yaq'aambee</i> (f)	"big male animal"
* <i>guraʔa</i>	* <i>guraʔi</i> (n)	"belly"
* <i>g<sup>w</sup>ereta</i>	* <i>g<sup>w</sup>eretatee</i> (f)	"he-goat"
* <i>g<sup>w</sup>aanda</i>	* <i>g<sup>w</sup>aandadee</i> (f)	"ram"

The neuter class deviates from the other two classes in that it is not independent from the number category. Apart from some number-insensitive nouns such as \**ʔamasi* (n) "night", \**ʔaluuj<sup>w</sup>* (n) "back side", \**x<sup>w</sup>ayaʔi* "evening", in PWR most neuter nouns refer to plurals, e.g. \**guraʔi* (n) "bellies", \**fararu* (n) "bones"; but since not all plurals are neuter, e.g. \**ʔawee* (f) "bulls", \**tigay* (m) "women, wives", it would be quite misleading to call that class a plural class. Burunge and Alagwa preserve the PWR restriction of the neuter class to plural nouns, but semantic shifts involving metonymic transfers in PIRQ have forced some neuter nouns into the singular domain. Thus, the PWR plural \**ʔuruunḡaʔi* (n) "nostrils" of PWR \**ʔuruunḡa* (m) "nostril", after phonetic reduction to PIRQ \**duunḡaʔ*, became reconceptualized via dual reanalysis as "pair of nostrils, nose" and entering the opposition to \**duunḡiʔi* (n) "noses" became established in the singular domain. Other examples of neuter nouns in singular meaning: PIRQ \**haysoo* (n) "tail" vs. \**hayssu* (n) ~ \**hayssee* (f) "tails", PIRQ \**ʔafeetʔoo* (n) "waist" vs. \**ʔafeetʔu* (n) ~ \**ʔafeetʔee* (f) "waists", PIRQ \**bihaʔ* ~ *bahiʔ* (n) "side, direction" vs. \**bahaḥee* (f)

"sides, directions", PIRQ \**gits'eeʃaʔ* ~ \**gits'aʃaʔ* (n) "face, forehead" vs. \**gits'eeʃu* (n) "faces, foreheads".

## Number system

Southern Cushitic has a system of number marking that is complex in the semantic and morphological respect. A singular base may derive a plural (18), and a collective base may derive a singulative (19). In a three-way opposition, the basic form has a generic sense, the singulative refers to an individual and the plural to a group of several individuals (20).

(18) Singular base derives a plural:

PWR \**mahaaŋ<sup>w</sup>* (m) "arrow" > \**maheeri* (n) PL

PWR \**q'aymoo* (f) "field" > \**q'aymamu* (n) PL

PWR \**labaala* (f) "spear" > \**labalu* (n) PL

PWR \**k<sup>w</sup>ari* (m) "year" > \**k<sup>w</sup>araraa* (f) PL

(19) Collective base derives a singulative:

PWR \**beeʃu* (m) "sheep" > \**beeʃiya* (f) SGV

PWR \**baʔara* (f) "bees" > \**baʔariya* (f) SGV

PWR \**ʃaants'áa* (f) "wild fig trees" > \**ʃaants'imo* (m) SGV

AL *tipa* "brown clay" > \**tipinoo* (m) "clod of brown clay"

(20) Threefold oppositions of singulative vs. collective vs. plural:

PWR \**piindimo* (m) "door bar" vs. \**piindóo* (f) "set of door bars for one entrance" vs. \**piindu* (n) "various door bars of several entrances (that don't form one set)"

AL *ʃawtumoo* (m) "monkey" vs. *ʃawtu* (m) "monkeys (as a group or species)" vs. *ʃawtataa* (f) "monkeys (several individuals, countable)"

BU *titf'aʃimo* (m) "star" vs. *titf'aʃu* (m) "stars, starlit sky" vs. *titf'aʃeeri* (n) "stars (several, countable)"

GO *hapeelmó* (m) "bat" vs. *hapél* (m) "bats (as a group or species)" vs. *hapeelma?* (n) "bats (several individuals)"

BU *makimo* (m) "wild animal" vs. *makay* (n) "wild animals" (as a generic antonym to "domestic animals") vs. *makimaʔiing* (n) PL "wild animals" (several individuals or several kinds)

Some singulative suffixes even have a semantic specialization for sex. Three examples of maximal oppositions are shown in (21):

(21) Paradigms of number oppositions from Burunge (Kießling 1994: 67):

*tʃ'awadu* (m) COL "waterbuck" (species, generic sense), COL suffix *-u*

*tʃ'awadiya* (f) SG "waterbuck (female)", feminine SG suffix *-iya*

*tʃ'awadimo* (m) SG "waterbuck (male)", masculine SG suffix *-imo*

*tʃ'aweedoo* (m) PL "waterbucks (female)", PL infix/suffix <ee>-oo

*tʃ'awadimaʔiiŋ* (n) PL "waterbucks (male)", PL suffix *-aʔiiŋ*

*doofaa* (f) COL "rhino" (species, generic sense), COL suffix *-aa*

*doofiya* (f) SG "rhino (female)", feminine SG suffix *-iya*

*doofitaʔoo* (f) SG "rhino (female)", feminine SG suffix *-itaʔoo*

*doofimo* (m) SG "rhino (male)", masculine SG suffix *-imo*

*doofafu* (n) PL "rhinos (females)" PL suffix *-aCu*

*dofu* (m) PL "rhinos (females and males)", PL suffix *-u!*

*doofimaʔiiŋ* (n) PL "rhinos (males)", PL suffix *-aʔiiŋ*

*hingaaray* (m) COL "Solanum incanum" (species, generic sense), COL suffix *-ay*

*hingaarimo* (m) SG "Solanum incanum (one shrub)", SG suffix *-imo*

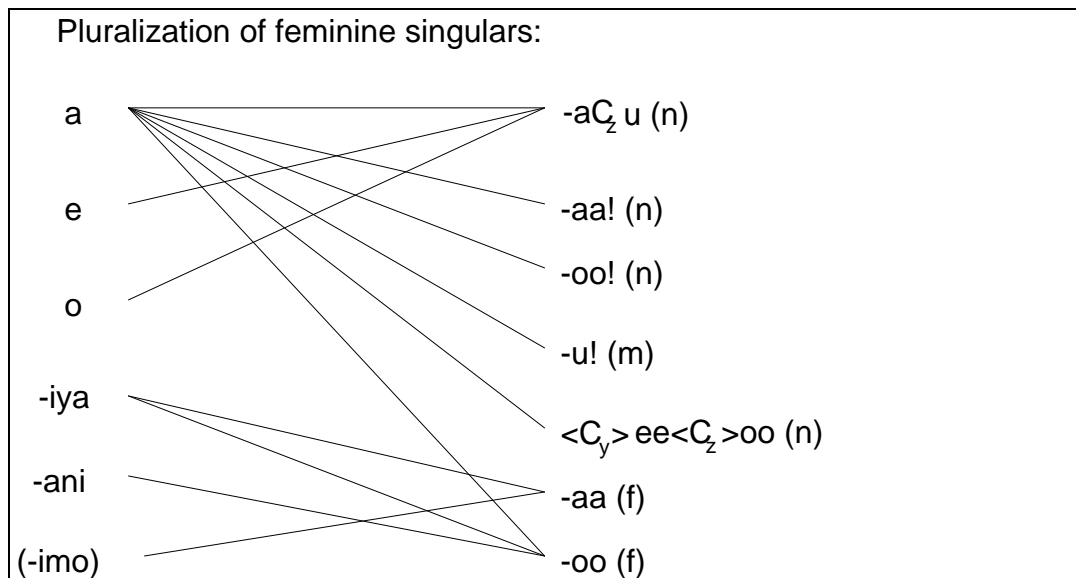
*hingaarimaʔiiŋ* (n) PL "Solanum incanum (several shrubs)", PL suffix *-aʔiiŋ*

*hingaariya* (f) SG "Solanum incanum (one fruit)", SG suffix *-iya*

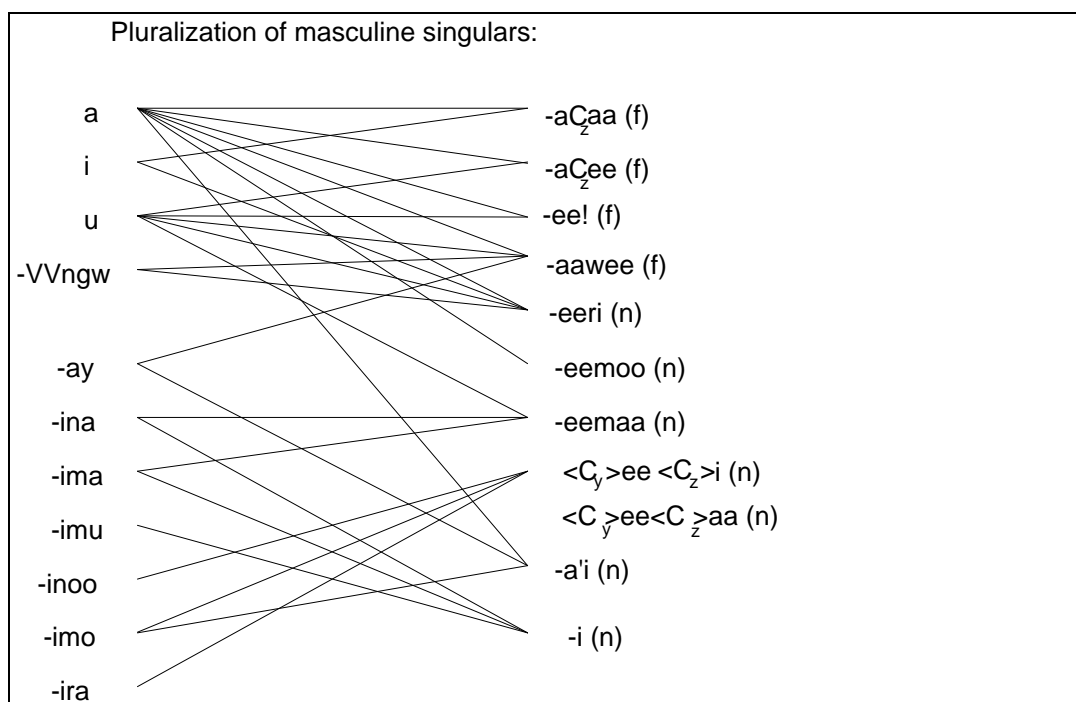
*hingaariyoo* (f) PL "Solanum incanum (several fruits)", PL suffix *-oo*

As has become clear by now, Southern Cushitic has no shortage of morphemes for deriving the plural, in fact the modern languages have some twenty pluralizing techniques (Nordbustad 1988: 58ff., Mous 1993: 44ff., Kießling 1994: 48ff.). Generally, there is no way to predict the plural from the form of the singular. As a language learner, one has to learn the plural together with the singular. But there are some tendencies that reveal a morphological and a phonological determination of the plural form that allows prediction to some extent, as shown by the tables in (22) and (23). Thus, the gender of the singular is important, its morphological setup and its final vowel; for example, feminine singulars terminating in the vowel *o* form their plural by suffix *\*-aCu*. So *\*q'aymoo* "field" derives the plural *\*q'aymamu*. The dependency of the plural form on form and gender of the singular could be captured in the following tables:

(22) Plural morphemes of feminine bases in PWR, as determined by singular suffix or final vowel:



(23) Plural morphemes of masculine bases in PWR, as determined by singular suffix or final vowel:



Apart from suffix and gender, the only phonological condition that determines the plural of a noun is the quality of the singular's final vowel. Historically, these vowels seem to have a morphological origin in gender suffixes *\*-e* and *\*-o* for feminine and *\*-i* and *\*-u* for masculine, respectively, that have become lexicalized beyond the point of

recognizability. This reconstruction is even more plausible with regard to the overall picture of substitution of final vowels in the course of plural derivation.

### Verbal derivation

Southern Cushitic languages display quite an elaborate system of verbal derivational morphemes, i.e. a verbal root may be modified by several affixes for expressing notions such as the causative, the mediopassive, progressive, habitual etc. Most if the job is done by suffixes, here, but there are prefixes and infixes as well.

(24) Overview of the verbal derivational morphemes and their order in PWR:

* <i>ɔila-</i> comitative	* <i>hiin-</i> * <i>hayn-</i> applicative	~	* <i>CV-</i> frequentative  * <i>CVCV-</i> distributive	verbal root	* <i>-im</i> durative	* <i>-aC</i> progressive 1  * <i>-V(V)C</i> progressive 2  * <i>-aaC</i> habitual	<i>-it!</i> medio- passive / contin- uative	* <i>-is</i> causative
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(25) Examples of verbal derivation from PWR:

- \**fīs* "steal": \**fīsīm* DUR "steal for an extended period", \**fīsāsīm* DUR-PRO1  
"be in the process of stealing", DUR-HAB \**fīsāāsīm* "steal habitually"  
\**kaʔas* CAU "split", \**kaʔat* MED "be split", \**kaʔamis* CAU-DUR "split for a  
long period", \**kaʔaʔamis* ~ \**kaʔamamis* "be in the act of splitting",  
\**kaʔamaamis* CAU-DUR-HAB "split habitually"

The frequentative, durative, and continuative extensions have entered into a quasi-allomorphic relation, taking over the inflectional function of marking plural action in the sense of Newman 1990, whenever a plural subject or object is involved.

(26) Burunge plural stem formation via durative with a plural object (Kießling 1994: 113ff.):

<i>ʔana ha</i>	<i>hatfʼis<sup>a</sup></i>	<i>yak<sup>w</sup>a</i>	I fill a calabash.
I	S1/2.PRES be full<CAU>.1sg.NPF	calabash	
<i>ʔana ha</i>	<i>hatfʼimis<sup>a</sup></i>	<i>yak<sup>w</sup>aku</i>	I fill calabashes.
I	S1/2.PRES be full<DUR><CAU>.1sg.NPF	calabash	

(27) Alagwa plural stem formation via durative with a plural object:

*ʔana ana mut makaa* I have pierced an animal.  
 I S1/2.COMPL pierce.1sg animal

*handaaʔ ana mutiman makay* We have pierced animals.  
 we S1/2.COMPL pierce<DUR>.1pl animals

The progressive stems have also specialized in the inflectional system, obligatorily marking the imperfective aspect in past and anterior tenses.

(28) Burunge imperfective stem formation via progressive 2 in past and anterior tense (Kießling 1994: 112f.):

*ʔana háa tʰetim<sup>i</sup>* I had a dream.  
 I S1/2.PRET dream.1sg.PF

*ʔana haay tʰetim<sup>i</sup>* I have had a dream.  
 I S1/2.ANT dream.1sg.PF

*ʔana háa tʰetiitim<sup>a</sup>* I was dreaming.  
 I S1/2.PRET dream<PRO2>.1sg.NPF

*ʔana haay tʰetiitim<sup>a</sup>* I have been dreaming.  
 I S1/2.ANT dream<PRO2>.1sg.NPF

(29) Alagwa imperfective stem formation via progressive *-aC* for the present and progressive *-iiC* for the past:

*ʔana anaa ts'axar sereʕaa hara fayu*  
 I S1/2.COMPL shoot.1sg buffalo with arrow  
 I have shot a buffalo with an arrow.

*ʔana (a) ts'axararim sereʕaa hara fayee*  
 I (S1/2) shoot<PRO1><DUR>.1sg buffalo with arrows  
 I am shooting buffalos with arrows.

*ʔana aa ts'axariirim sereʕaa hara fayee*  
 I S1/2.PRET shoot<PRO2><DUR>.1sg buffalo with arrows  
 I was shooting buffalos with arrows.

<i>ʔana</i>	<i>ana</i>	<i>raaʔ</i>	I have sung (once).
I	S1/2.COMPL	sing.1sg	
<i>ʔana</i>	<i>ana</i>	<i>raaʔamim</i>	I have sung (several times).
I	S1/2.COMPL	sing<DUR><DUR>.1sg	
<i>ʔana</i>	<i>(a)</i>	<i>raaʔamamim</i>	I am singing.
I	(S1/2)	sing<DUR><PRO1><DUR>.1sg	
<i>ʔana</i>	<i>aa</i>	<i>raaʔamiimim</i>	I was singing.
I	S1/2.PRET	sing<DUR><PRO2><DUR>.1sg	

### Verbal inflection

The verbal inflectional system of the WR languages is highly complex. A whole bulk of semantic categories is marked on the verb by bound morphemes: subject, object and case; tense, aspect, mood, direction of action, negation and the interrogative. These inflectional morphemes are distributed over two syntactic categories: some of them are suffixes to the verb, most of them are proclitics to the verb within a syntactic constituent called preverbal clitic cluster (PCC). Thus, the basic structure of a transitive sentence in Southern Cushitic languages is shown in (30):

#### (30) Subject Object PCC Verb ~ Subject PCC Object Verb

The important point is that this preverbal clitic cluster does not act like a bundle of prefixes, but is syntactically independent from the verb, since other constituents, such as adverbials or the direct object, may intervene, may be incorporated within the verbal predicate between PCC and finite verb, shown in (31):

#### (31) Incorporation of the direct object between PCC and finite verb in Burunge:

<i>ʔana</i>	<i>haaŋ</i>	<i>maʔay</i>	<i>kitaħ<sup>i</sup></i>
<i>ʔana</i>	<i>ha-ŋ</i>	<i>maʔay</i>	<i>kitaħ-ø-i</i>
I	S.1/2-ANT	water	drink-S1sg-PF
Subject	PCC	Object	Verb

"I have drunk water."

<i>ʔana</i>	<i>maʔay</i>	<i>hagiiŋ</i>	<i>kitaħ<sup>i</sup></i>
<i>ʔana</i>	<i>maʔay</i>	<i>ha-gi-ŋ</i>	<i>kitaħ-ø-i</i>
I	water	S.1/2-O.3pl-ANT	drink-S1sg-PF



Subject    Object                    PCC                    Verb  
 "I have drunk the (aforementioned) water."

To get an idea of the complexity, here is a tagmemic synopsis of the verbal suffixes and proclitics of one of the Sothern Cushitic languages, Burunge. As for the preverbal clitic cluster, there are eight functional slots. Morphemes of the first slot indicate the clause type, the second slot indicates features of the subject, slot 3 features of the object, slot 4 marks contrast features for the object, slot 5 is for oblique case markers, slot 6 indicates several tenses and aktionsarten, slot 7 the sequential and slot 8 the direction of event or action:

(32) Categories of the P(reverbal) C(litic) C(luster) in Burunge:

1. clause type	2. verbal gender (case)	3. object concord	4. contrast	5. case	6. tense and aktionsart	7. sequential	8. direction of event / action
<i>bara</i> conditional	<i>ha</i> subject 1/2	<i>ni</i> O.1sg	<i>ni</i> object focus	Ø non- comitative/ non- instrumental	Ø present	<i>gi</i> sequential	<i>ni</i> ventive
<i>ma</i> consecutive	<i>hi</i> subject 3	<i>ndi</i> O.1pl		<i>ri</i> comitative, instrumental	<i>áa</i> past		<i>ti</i> reflexive
<i>la</i> optative	<i>da</i> subject indefinite	<i>gu</i> O.2sgm			<i>ŋ</i> completive		<i>ti</i> seperative
<i>na</i> subject focus	<i>sa</i> benefactive	<i>gi</i> O.2sgf			<i>aa</i> future 1		
<i>ga</i> object relative		<i>ŋgu</i> O.2pl			<i>maa</i> future 2		
		<i>gu</i> O.3sgm			<i>óo</i> habitual		
		<i>ga</i> O.3sgf			<i>oo</i> prospective		
		<i>gi</i> O.3pl/3n					
		<i>ŋgi</i> reflexive					

The finite verb, then, takes inflectional suffixes that mark the person of the subject, its number, aspect and mood, negation and interrogation.

## (33) Morphological setup of the finite verb in Burunge:

verbal stem	1. subject person	2. aspect and mood	3. number of subject	4. affirmative / negative	5. declarative / interrogative
	$\emptyset$ , <i>-u</i> [1sg]	<i>-ee</i> subjunctive	<i>-ʔi</i> PL [-perf]	$\emptyset$ affirmative	<b>terminal erosion</b> declarative
	<i>-id</i> , <i>-t</i> [2sg, 3sgf]	<i>-a</i> non-perfective	<i>-ri</i> PL [+perf]	<i>-bati</i> negative	$\emptyset$ HL# interrogative
	<i>-i</i> , <i>-n!</i> [3sgm]	<i>-i</i> perfective	$\emptyset$ SG		<i>-la</i> HL# rhetorical question
	<i>-an</i> , <i>-in</i> , <i>-n!</i> [1pl]				

Subject agreement is realized by a combination of verbal suffix plus preverbal clitic. Due to extensive homophony, only this combination guarantees an unambiguous identification of the subject person (Kießling 1994: 123). Thus, a homophony of 2sg and 3sgf in *-id* is resolved by the use of the respective preverbal clitics:

(34) Burunge: preverbal clitic {*ha*} identifies the subject as 2sg

*haaŋ dooʔidʔ*  
 ha-ŋ dooʔ-id-i  
 S.1/2-ANT cultivate-2/3f-PF  
 "You have cultivated."

(35) Burunge: preverbal clitic {*hi*} identifies the subject as 3sgf

*hiŋ dooʔidʔ*  
 hi-ŋ dooʔ-id-i  
 S.3-ANT cultivate-2/3f-PF  
 "She has cultivated."

Due to the merger of personal and aspectual suffix, the opposition of 1sg and 3sgm is neutralized in the perfective paradigm of most verbs. Again ambiguity is resolved by the use of different preverbal clitics:

(36) Burunge: preverbal clitic {*ha*} identifies the subject as 1sg

*haaŋ dooʔi*  
 ha-ŋ dooʔ- $\emptyset$ -i  
 S.1/2-ANT cultivate-1sg-PF  
 "I have cultivated."

(37) Burunge: preverbal clitic {*hi*} identifies the subject as 3sgm

<i>hiij</i>	<i>doo<sup>i</sup></i>
hi-ij	doo <sup>i</sup> -i-i
S.3-ANT	cultivate-3sgm-PF

"He has cultivated."

One important feature that emerges from table (32) is the preverbal case marking system. In contrast to most languages with a case system, the Southern Cushitic languages do not mark case on the nominal arguments themselves, but on the syntactic head, i.e. the verb, and go along with Eastern Cushitic Somali (Hetzron 1989, Saeed 1992) in this respect. Thus, in (38) the clitic {*ha*} in the complex {*hagaa*} refers to *ʔuuŋkuray* and identifies it as the syntactic subject, at the same time the noun phrases *faʔa* (f) "porridge" (38a), *fuʔumay* (n) "meat" (38b), and *kooŋkaku* (m) "cock" (38c) are identified as direct objects by the clitics {*ga*}, {*gi*}, and {*gu*}, respectively.

(38a) Burunge: preverbal marking of the direct object *faʔa* (f) "porridge" by clitic {*ga*} which identifies it as 3. person singular feminine

<i>ʔuuŋkuray</i>	<i>faʔa</i>	<i>hagaa</i>	<i>ʔagiintay</i>
ʔuuŋkuray	faʔa	ha-ga-aa	ʔagim-t-a-ʔi
2pl	porridge	S.1/2-O.3sgf-FUT1	eat-2-IPF-PL

"You (pl) will eat the porridge."

(38b) Burunge: preverbal marking of the direct object *fuʔumay* (n) "meat" by clitic {*gi*} which identifies it as 3. person neuter/plural

<i>ʔuuŋkuray</i>	<i>fuʔumay</i>	<i>hagiyaa</i>	<i>ʔagiintay</i>
ʔuuŋkuray	fuʔumay	ha-gi-aa	ʔagim-t-a-ʔi
2pl	meat	S.1/2-O.3n-FUT1	eat-2-IPF-PL

"You (pl) will eat the meat."s

(38c) Burunge: preverbal marking of the direct object *kooŋkaku* (m) "cock" by clitic {*gu*} which identifies it as 3. person singular masculine

<i>ʔuuŋkuray</i>	<i>kooŋkaku</i>	<i>hagwaa</i>	<i>ʔagiintay</i>
ʔuuŋkuray	kooŋkaku	ha-gu-aa	ʔagim-t-a-ʔi
2pl	meat	S.1/2-O.3sgm-FUT1	eat-2-IPF-PL

"You (pl) will eat the cock."

These examples illustrate how the preverbal clitic complex organizes the network of syntactic relations within the clause. The object indicators in slot 3 (table 32) are also used to identify other non-subject case roles such as the benefactive or the instrumental/comitative. But as soon as one of these oblique cases moves into the scope of PCC agreement, the direct object has to be removed from it. There is no triple agreement of nominal arguments on the verb. Thus in (39) the clitic *{gu}* identifies *koŋkaku<sup>i</sup>* as object, and *{ri}* specifies that it is not a direct, but rather a comitative one. The direct object *faʎa* "porridge" has to be incorporated in between the PCC and the verb (39a) or to be removed into clause-final position (39b).

(39a) Burunge: preverbal marking of the comitative object *koŋkaku* (m) "cock", dislocation of direct object *faʎa* (f) "porridge" between PCC and verb

<i>ʔuuŋkuray</i>	<i>koŋkaku<sup>i</sup></i>	<i>haguriyaa</i>	<i>faʎa</i>	<i>ʔagiintay</i>
ʔuuŋkuray	koŋkaku-k-i	ha-gu-ri-aa	faʎa	ʔagim-t-a-ʔi
2pl	cock-M-DEM.1	S.1/2-O.3sgm-COM-FUT1	porridge	eat-2-IPF-PL

"You (pl) will eat the porridge together with this cock."

(39b) Burunge: preverbal marking of the comitative object *koŋkaku* (m) "cock", dislocation of direct object *faʎa* (f) "porridge" in clause-final position:

<i>ʔuuŋkuray</i>	<i>koŋkaku<sup>i</sup></i>	<i>haguriyaa</i>	<i>ʔagiintay</i>	<i>faʎa</i>
ʔuuŋkuray	koŋkaku-k-i	ha-gu-ri-aa	ʔagim-t-a-ʔi	faʎa
2pl	cock-M-DEM.1	S.1/2-O.3sgm-COM-FUT1	eat-2-IPF-PL	porridge

"You (pl) will eat the porridge together with this cock."

In (40a) *tʃʰatay* (m) "knife" is identified as direct object by the clitic *{gu}*, whereas in (40b) *ʔana* "I" has been moved into the scope of preverbal agreement and is identified as object by the clitic *{ni}* and specified by *{sa}* as a non-direct, but beneficiary object:

(40a) Burunge: preverbal marking of the direct object *tʃʰatay* (m) "knife"

<i>ʔugu</i>	<i>tʃʰatay</i>	<i>haguuy</i>	<i>hadisid<sup>i</sup></i>	<i>sa</i>	<i>ʔana</i>
ʔugu	tʃʰatay	ha-gu-ŋ	hadis-id-i	sa	ʔana
2sgm	knife	S.1/2-O.3sgm-ANT	give-2-PF	for	1sg

"You (sg.m) have given me the knife."

(40b) Burunge: preverbal marking of the beneficiary object *?ana* "I"

<i>?ugu</i>	<i>(?ana)</i>	<i>siniij</i>	<i>hadisi<sup>i</sup></i>	<i>tʃ'atay</i>
?ugu	(?ana)	sa-ni-ij	hadis-id-i	tʃ'atay
2sgm	(1sg)	BEN-O.1sg-ANT	give-2-PF	knife

"You (sg.m) have given me the knife."

Roughly the same situation holds for Iraqw, except that the beneficiary marker *{sa}* occupies the same slot 5 as the comitative/instrumental *{ra}* and simultaneous marking of subject and object in the PCC is restricted to distinct clause types.

(41) Categories of the P(reverbal) C(litic) C(luster) in Iraqw:

1. clause modality	2. subject	3. object	4. tense / mood / aktionsart	5. case	6. tense	7. emphasis
<i>bara</i> conditional	pron 1: <i>a</i> S.1/2 <i>i</i> S.3	<i>i</i> O.1sg	∅ present	<i>ra ~ ar ~ r</i> comitative / instrumental	∅ present	<i>qoo</i> emphatic
<i>ma</i> word question	pron 2: <i>ni</i> S.1 <i>ta</i> S.2 <i>i</i> S.3	<i>ti</i> O.1pl	<i>n</i> specific	<i>sa ~ s</i> benefactive	<i>gaa ~</i> <i>aa</i> past	
<i>ma</i> prohibitive		<i>i</i> O.2sgf	<i>waa</i> background	<i>har</i> causal		
<i>tam</i> concessive		<i>u</i> O.2sgm	<i>ri</i> sequential	<i>y</i> goal / recipient		
		<i>nu</i> O.2pl				
		<i>ga</i> O.3sgf				
		<i>gi</i> O.3pl / O.3n				
		<i>gu</i> O.3sgm				

In (42a) the clitic *{a}* identifies the direct object *q'aymoori* (f) "this field", in (42b) clitic *{u}* refers back to the object *kurmo* (m) "hoe" which is specified by *{ra}* as an instrumental object, and in (42c) clitic *{i}* identifies the object *kiing* "you (sg.f)" which is specified as beneficiary by *{sa}*.

(42a) Iraqw: preverbal marking of the direct object *q'aymo* (f) "field"

<i>?aniij</i>	<i>q'aymoori</i>	<i>anaa</i>	<i>dooʃ</i>	<i>?ar</i>	<i>kurmo</i>
?aniij	q'aymo-r-i	a-naa	dooʃ	?ar	kurmo
I	field-F-DEM1	O3sgf-SPEC-PAST	cultivate.1sg.PAST	with	hoe

"I have cultivated this field with a hoe."

(42b) Iraqw: preverbal marking of the instrumental object *kurmoo* (m) "hoe"

<i>ʔaníŋ</i>	<i>kurmoo</i>	<i>unaara</i>	<i>q'aymoori</i>	<i>dóoʔ</i>
ʔaníŋ	kurmoo	u-n-aa-ra	q'aymoo-r-í	dóoʔ
I	hoe	O3sgm-SPEC-PAST-INSTR	field-F-DEM1	cultivate.1sg.PAST

"I have cultivated this field with a hoe."

(42c) Iraqw: preverbal marking of the beneficiary object *kíiŋ* 2sgf "you"

<i>ʔaníŋ</i>	<i>kíiŋ</i>	<i>inaasa</i>	<i>q'aymoori</i>	<i>dóoʔ</i>
ʔaníŋ	kíiŋ	i-naa-sa	q'aymoo-r-í	dóoʔ
I	you.sg.f	O2sgf-SPEC-PAST-BEN	field-F-DEM1	cultivate.1sg.PAST

"I have cultivated this field for you (sg.f)."

### Historical morphophonology

The PIRQ subgroup of WR developed paradigmatic alternations of consonant quality, vowel quantity and tone in morphological paradigms such as nominal plural formation, verbal inflection for subject person and progressive stem derivation, due to the loss of segmental morphemes.

The consonant changes in PIRQ resemble what has been described as consonant apophony for the Central Cushitic languages (Hetzron 1976, Zaborski 1976). From a strict synchronic perspective, they transform the sonorants *w*, *r*, *g* into their obstruent counterparts *b*, *d*, *g*. Thus, Iraqw derives from the noun singulars *dawa* "arm", *tʔawu* "leather apron", *hara* "stick", *fara* "bone" the plurals *dabee*, *tʔabee*, *hadoo* and *fadu*, respectively. The same kinds of alternations occur in verbal derivation, where Iraqw derives from the verbal bases *tʔuuw* "rain", *faad* "count" and *ʔaay* "eat" the progressives *tʔubim*, *fadit* and *ʔagim*, respectively. Still synchronically speaking, nominal plural suffixes such as *-ee*, *-oo* and *-u* and verbal derivational suffixes such as *-im* and *-it* could be ascribed "hardening" effects in that they trigger the plosivization of sonorants. In a historical perspective, however, this ablaut process worked the other way round. The obstruents are original, whereas the sonorants result from lenition that operated regularly on intervocalic voiced stops. The reality of this sound change in PIRQ emerges from a simple comparison with Alagwa and Burunge glosses. Thus, where Alagwa and Burunge retain the original obstruents, e.g. *daba* "arm", *hada* "stick", *hadée* "woman, wife", *ʔagimaa* "food", their PIRQ cognates display lenition: *dawa*, *haree*, *hara*, *ʔaymaa*. The retention of the voiced obstruents in the PIRQ derivatives, however, results from a morphophonological fusion of the stem plus suffixes of the shape *\*-VC(V)*,

mostly reduplicative morphemes. Originally, Iraqw *dabee*, *tʰabee*, *ʕagim*, *tʰubim* go back to PNWR *\*dab-abee*<sup>5</sup>, *\*tʰab-abee*, *\*ʕag-ag-im* and *\*tʰub-ab-im* with the reduplicative suffixes *\*-aCee* for nominal plural and *\*-aC* for verbal progressive. Before lenition started operating, vowel syncope in penultimate syllables reduced the forms to *\*dabee*, *\*tʰabee*, *\*ʕaggim* and *\*tʰubbim*, respectively, creating geminate stops and preventing simple voiced stops from ending up in intervocalic position which blocked their lenition. Instead these geminates underwent degemination further on and could not be affected by lenition again. Thus, the consonantal ablaut phenomena in Iraqw and Gorwaa are the result of an intervocalic lenition which has been led by a simplification of reduplicative suffixes.

Vowel quantity alternations show up in the same paradigms of nominal plural and verbal progressive derivation as the consonantal ablaut. Thus, Iraqw *labaala* "spear" and *karaama* "castrated animal" derive their plurals *labalu* and *karamu*, and the verbal bases *faar* "count" and *q<sup>w</sup>aatʰ* "fight" form the progressives *fadit* and *qwaqwatʰim*<sup>6</sup>. Synchronically, the plural marker *-u* and both the progressive morphemes *-it* and *-im* reduce preceding long vowels in the root to short ones. The historical explanation runs along the same lines of morpheme reduction, here, with an additional process involved: syllable weight reduction. Plural suffix *-u* in Iraqw goes back to the reduplicative suffix *\*-aCu* of PWR, and *-it* and *-im* must have been preceded by the PWR progressive suffix *\*-aC*. Thus the Iraqw forms are derived from PWR *\*labaal-alu*, *\*karaam-amu*, *\*faad-ad-it* and *\*q<sup>w</sup>aq<sup>w</sup>aatʰ-atʰ-im*. Syncope in the penultimate syllable gave rise to over-heavy syllables in *\*labaallu*, *\*karaammu*, *\*faaddit* and *\*q<sup>w</sup>aq<sup>w</sup>aatʰ-tʰim*, respectively, which were resolved by vowel reduction first (*\*laballu*, *\*karammu*, *\*q<sup>w</sup>aq<sup>w</sup>atʰ-tʰit*, *\*faddit*), before degemination operated to turn them into their modern Iraqw shapes.<sup>7</sup>

In the same way that historical lenition and vowel reduction have been morphologized in several paradigms of Iraqw and Gorwaa, historical intonation patterns, largely conditioned by syllable structure, have been phonemicized and morphologized on a broad scale. While PWR must still have been a language with marginal tonal

<sup>5</sup> The reconstructions are taken from work in progress by Mous and Kießling (in preparation) and Kießling 1999.

<sup>6</sup> In the formation of this progressive stem, an additional formative *CV-*, the frequentative, is involved. It has, however, no impact on the argument sketched here.

<sup>7</sup> Note by the way how syllable reduction and lenition both operated on the paradigm of PWR *\*faad* "count". The simplex was subject to lenition in Iraqw *faar*, which was, however, blocked in the progressive derivation. Here, PWR *\*faadadit* underwent syncope (*\*faaddit*) which triggered vowel reduction. The resulting form *\*faddit* could not be simplified by lenition, but by degemination instead, giving rise to Iraqw *fadit*. So in the modern Iraqw paradigm, the simplex *faar* preserves the original vowel length, whereas the progressive retains the original consonant quality.

oppositions restricted mostly to some nominal derivational suffixes and to the subjunctive form of the verb (Kießling 1999), the PIRQ subgroup introduced tonal oppositions in most of the other subdomains of grammar, so that its modern descendents, Iraqw and Gorwaa, must be viewed as moderate tone or pitch-accent languages, comparable to Somali, Swedish and Serbo-Croatian with respect to the functional load of tone.

Basically, words in Iraqw and Gorwaa carry one of two tone patterns: low level or falling (accent 1) or progradient (accent 2). Accent 2 is realized as a final high tone. The verbal inflectional system relies heavily on this tonal opposition. Table (43) shows that the completive paradigm is characterized by accent 2, the subjunctive carries accent 1, and the non-completive has a mixed appearance with 3sgm showing accent 1, whereas all the other forms come up with accent 2.

(43) Iraqw verbal stem *dooʔ* "cultivate" inflected for subject person and tense:

	non-completive	completive	subjunctive
1sg	<i>dóoʔ</i>	<i>dóoʔ</i>	<i>dooʔ</i>
2sg/3sgf	<i>dóʔ</i>	<i>dóʔ</i>	<i>doʔ</i>
3sgm	<i>dooʔ</i>	<i>dóoʔ</i>	<i>dooʔ</i>
1pl	<i>dooʔáan</i>	<i>dooʔáan</i>	<i>dooʔaan</i>
2pl	<i>doʔáʔ</i>	<i>doʔéʔ</i>	<i>doʔaʔ</i>
3pl	<i>dooʔiyáʔ</i>	<i>dooʔiyéʔ</i>	<i>dooʔiyaʔ</i>

These tonal patterns are relics of a once predictable pattern of intonation which has been phonemicized by segmental loss; with the exception of the subjunctive which must be reconstructed for PWR with a low tone pattern throughout:

(44) PWR reconstruction of the verbal stem *dooʔ* "cultivate" inflected for subject person and tense:

	non-perfective	perfective	subjunctive
1sg	<i>dooʔa</i>	<i>dooʔi</i>	<i>dòoʔèe</i>
2sg/3sgf	<i>dooʔta</i>	<i>dooʔti</i>	<i>dòoʔtèe</i>
3sgm	<i>dooʔiya</i>	<i>dooʔi</i>	<i>dòoʔiyèe</i>
1pl	<i>dooʔana</i>	<i>dooʔani</i>	<i>dòoʔànèe</i>
2pl	<i>dooʔtaaʔi</i>	<i>dooʔtiri</i>	<i>dòoʔtèeʔi</i>
3pl	<i>dooʔiyaaʔi</i>	<i>dooʔtiri</i>	<i>dòoʔiyèeʔi</i>

In the pre-Iraqwoid phase, syllable structure dictated a certain intonation pattern in the indicative mood, with high-pitched stress falling onto the penultimate syllable as long as



it was heavy (CVV or CVVC). If it was light, however, low-pitched stress was fixed on the antepenultimate:

(45) Pre-Iraqwoid intonation pattern fixing a high pitch on heavy penultimates and low pitch on the preceding antepenultimate for light penultimates:

	non-perfective	perfective	subjunctive
1sg	<i>dóoŋa</i>	<i>dóoŋi</i>	<i>dòoŋèè</i>
2sg/3sgf	<i>dóoŋta</i>	<i>dóoŋti</i>	<i>dòoŋtèè</i>
3sgm	<i>dòoŋiya</i>	<i>dóoŋi</i>	<i>dòoŋiyèè</i>
1pl	<i>dòoŋana</i>	<i>dòoŋani</i>	<i>dòoŋànèè</i>
2pl	<i>dooŋtáaŋi</i>	<i>dooŋtéèŋi</i>	<i>dòoŋtèèŋi</i>
3pl	<i>dooŋiyáaŋi</i>	<i>dooŋiyéèŋi</i>	<i>dòoŋiyèèŋi</i>

This process fixed the tones on the stem syllable as they appear in modern Iraqw and Gorwaa. Finally, a succession of simplificatory rules involving vowel reduction in over-heavy syllables (2sg/3sgf), postpalatal erosion in 3sgm, general terminal vowel erosion (Kießling 1996) and cluster simplification in 2sg/3sgf produced the modern patterns of inflection displayed in (43).<sup>8</sup>

Thus, tonogenesis in Iraqw and Gorwaa features as another mechanism to compensate for segmental morphological (and syllable) loss and, in this respect, resembles the rise of tonological oppositions in Swedish and the Baltic language area (Ternes 1980).

## Outlook

Progress in the documentation, description and analysis of the Southern Cushitic languages has raised new questions for future research. Synchronic descriptions of Iraqw and Burunge have done little more than giving an idea of the role of the PCC in establishing syntactic relationships; the delicate interrelationship of grammatical gender, grammatical number and semantic notions; the interaction of verbal derivational morphology and categories such as verbal plurality and imperfectivity. Research on the historical development of the Southern Cushitic languages has only started (Kießling 1999) and is yet to explain linguistic change within a broader sociohistorical framework that integrates factors such as language use, second language acquisition, language shift, interethnic marriage patterns, economic activities and political structures.

<sup>8</sup> A detailed discussion of the development of 2pl and 3pl forms is avoided here, since they involve complications which have no bearing on the present line of argument.

The Southern Cushitic languages certainly deserve the attention of typologists, since the outstanding feature of their grammar, the preverbal clitic cluster, seems to indicate an early stage of incipient polysynthesis along the lines of pragmatically conditioned incorporation of nouns in between the verb and the PCC.

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