Head gender/source gender in Nakh-Daghestanian:
Synchrony and typology

Johanna Nichols, UC Berkeley   johanna@berkeley.edu
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(1) What has been viewed as morphological detritus or a quirk in Nakh-Daghestanian languages is in fact a typological phenomenon, systematic, and distinctive.

(2) Nakh-Daghestanian genders:

1	v / Ø	Male human	
2	j / r	Female human	
3	b	Many animates	
4	d / r	Inanimates (chiefly)	
5	j	Various non-human	

Retention hierarchy: 2+3 > 1 > 4 > 5

(3) Gender agreement: Ingush

voaqqa sag[1]	'old man'	(V)
joaqqa sag	'old woman'	(J)
boaqqa wazh	'big apple'	(B)
doaqqa zhwalii	'big dog'	(D)
joaqqa mashen	'big car'	(J)

(4) Examples illustrating "frozen gender markers" (Daghestanian forms from Kibrik & Kodzasov, Dargi from Sumbatova & Mutalov). Same root, different genders.[2] Lexicalized. This is gender *assignment*, not gender *agreement*.

	'brother' (1)	'sister' (2)	
Ingush	vosha	jisha	(Nakh)
Avar.chd	wac	jac	(Avar)
Akhvakh	wacci	jacci	(Andic)
Bezhta	is	is	(Tsezic)
Lak	usswu	ssu	(Lak)
Dargi.icari	ucci	rucci	(Dargi)
Archi	ush-du	dosh-dur	(Lezgian)
Rutul	shu	rishi	(Lezgian)

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[1] Transcription: *ch, sh*, etc. as in English; *oa, ie*, etc. diphthongs; *aa, ii*, etc. long vowels; *cc, tt, qq*, etc. fortis or geminate consonants. Pharyngeals, pharyngealization: Ingush, Chechen *w*; others [C]. Nichols 2004, Nichols & Vagapov 2004.

[2] Here and below, languages cited by branch, from northwest to southeast.

(5) Words with head gender (Ingush)   -- and without

V	vosha	'brother'	daa	'father'
	vow	'son'		

B	butt	'moon, month'	ka	'ram'
	bolx	'work'	qiera	'stone'
	boardz	'gravemound, kurgan' (< Ossetic)		

D	dog	'heart'	kyljg	'hand'
	dogha	'rain'	leatta	'earth'
	dig	'axe'	aaga	'cradle'

J	jisha	'sister'	naana	'mother'
	jow	'daughter'	c'i	'name'
	jish	'voice, melody, song'	mos	'hair'
	jidz	'boundary stone'	kart	'fence'

(6) Gender-echoing initials: Initial consonant shares point of articulation of the gender marker

B	mott	'language, tongue'	D	nadzh	'oak, acorn' (< Ossetic?)
	maalx	'sun'		nux	'plow'
	moza	'fly'		nix	'corn beer'
	pwa	'blood feud'		tei	'thread'
	p'eljg	'finger'		t'ii	'bridge'

(7) Cognate sets with and without head gender

	'knife'		'louse'		'heart'		'moon'	
Ingush	urs	4/5 D	meza	3/5 B	dog	4/5 D	butt	3/5 B
Avar.chd	nush	3/3	nac'	3/3	rak'	3/3	moc'	3/3
Andi	besun	5/5	nocc'i	3/5	rok'wo	4/5	borcc'i	5/5
Akhvakh	meshu	3/3	nacc'i	3/3	rak'wa	3/3	bocc'o	3/3
Karata	besun	3/3						
Bezhta			naco	3/5	rak'o	4/5	boco	3/5
Lak			nac'	3/4	qq^{C}uk'	4/4	barz	3/4
Dargi.ch	diss	3/3	nez	3/3	urch'e	3/3	bacc	3/3
Lezgi.ax			net		rik'		warz	
Rutul					jik^{j}'	4/4	waz	3/4
Archi	k'os	4/4	nac'	3/4	ik'w	4/4	bac	3/4
Udi			nec"		uk'			
Xinalug	vaz ?	3/4	nimc'	4/4	ung	4/4	vac'	3/4

Some facts about gender in Ingush

(8) Ingush target gender, controller gender, and head gender

Singular	Plural	e.g.
V/J	D	*so* 'I', *vei* 'we.IN', *txo* 'we.EX' (V masc., J fem.)
V/J	B	pronouns: *yz* 3sg, *yzh* 3pl
		human nouns: *vosha, vezharii* (V, B) 'brother'
		jisha, jizharii (J, B) 'sister'
B	B	*wazh* 'apple'
B	D	*maangal* 'scythe', *chq'eara* 'fish'
D	D	*hwazaljg* 'bird' , *xii* 'water'
J	J	*kuotam* 'hen, chicken', *kart* 'fence'

Noun gender

(target vs. controller gender: Corbett 1991, 2007:274)

6 target genders (or 8, if V/J is considered two genders)
4 singular controller genders (V, J, B, D), 3 plural (J, B, D)
4 head genders; no singular-plural head gender change in any Nakh noun
e.g. *vosha* V : *vezharii* B 'brother'

(9) Percent of underived nouns in inanimate genders:

	B	D	J	N
	20%	40%	40%	1600

(10) Frequency of initial *j-, d-,* and *b-* in nonhuman nouns of J, D, and B gender respectively. Bold = same initial consonant as gender marker. % of total in column.

Gender:	J	D	B
Initial:			
j-	**46 (4.3%)**	29 (3%)	4 (0.1%)
d-	39 (3.7%)	**151 (16%)**	17 (4%)
b-	115 (11%)	47 (5%)	**77 (17%)**
other	1064	954	444
TOTAL	1110	1105	521

$p < 0.0001$ for harmonic vs. other, individual harmonic consonants vs. total, and for individual harmonic consonants vs. total of all nouns, except that for J gender and j-initial vs. all J nouns $p < 0.0035$ ($X^2 = 11.33$ for this cell, others 20.03 to 123; df $= 2$).

(11) Gender of all kinds is a partial category.

Simple verbs with gender agreement:	30%
Adjectives with gender agreement:	15%
Nouns with head gender:	10%

Comparison and Nakh-Daghestanian typology

(12) Could head gender be frozen or fossilized agreement gender?
 • Alekseev 1985:60-62, 2003:204-215:
  few such nouns are likely deverbals
  gender-echoing initials cannot be equated to gender prefixes without evidence of
   regular sound changes
  head gender does not change in the plural
  gender-echoing initials are not demonstrably morphemes
 • JN: Also, Nakh-Daghestanian languages are noun-based, not verb-based; expect few if
   any deverbal nouns in basic noun senses.
 • Furthermore, see how gender is assigned in deverbal nouns in Ingush:

(12a) biezam 'love, affection' < *d.ieza* 'like, love'
     -am is nominalizer and assigns B gender;
     root prefix then shows that gender
     Thus, no connection to verb agreement;
     gender assignment follows regular morphological rules.

(12b) viezarjg 'lover' (M) (nominalized participle)
    jiezarjg 'lover' (F)
     Gender determined by natural gender of referent
     No connection to verb-argument relations
     Gender assignment follows the regular morphological rules

(12c) Arguable fossilization:
    vaaxar   '(human) life' (D) < *d.aax* 'live'
     Verbal noun suffix *-ar* assigns D gender
     The noun does **not** have head gender but reflects agreement
     Agreement based on the syntax of gender resolution and
       generic or default gender

(13) Variable head gender: Same root, different prefixes, gender choice automatic

  Ingush: 2 word sets *jow* 'daughter' J   *jisha* 'sister' J
        vow 'son'   V   *vosha* 'brother' V

  plus 3 more lexicalized with non-minimal differences

  buhw   'top, peak, point, tip' (of tree, post, hill, building, implement, etc.)
  duhwa   'for, for the benefit of; in order to';   *duhwal* 'against, in front, opposite'
  juhw   'face; front, beginning'

  buq'   'back'; 'mountain range, ridge'
  duq'   'yoke'; 'ridge, chain of hills'
  juq'   'waist; center, middle; interval'

  bux   'bottom (of vessel), base'
  dux-   'basis, essence' (chiefly in *dux=t'y d.oal* 'get to the bottom, figure out'
  jux   'back, rear'

(14) Icari Dargi (Sumbatova & Mutalov 2003:18-19):

w/Ø	r	b	d		Agreement:
w.al^C	r.al^C	b.al^C	d.al^C	'face'	Possessor
w.arkkw	r.arkkw	b.arkkw		'inside' (idioms only)	Possessor
w.agh	r.agh	b.agh	d.agh	'waist'; 'middle' (D)	Possessor
ucci	r.ucci	b.ucci		'brother; sister; kin'	Referent
w.ah	r.ah	b.ah		'owner, possessor'	Referent
w.ahin	r.ahin	b.ahin		'proprietor, host'	Referent

(15) Pan-Nakh-Daghestanian generalizations:
The core set of nouns is ones that were/are used in possessive constructions.
Head gender is that of referent if human, otherwise not (that of possessor where variable).
There are only a handful of such nouns in any one language.

Ingush and Nakh

(16) Phonotactics.

Agreement gender: Alternating initial consonant. **No** clusters.
v.oaqqa j.oaqqa b.oaqqa d.oaqqa j.oaqqa 'big'
v.iel   j.iel   b.iel   d.iel   j.iel   'laugh'
Head gender: (almost) no alternation. **Clusters.**

(17) Nakh initial stop + fricative clusters.[3] Chechen and Ingush lose stop before *s, sh*:

		Chechen	Ingush	Batsbi
'flea'	B	segal / sagal	sagal	psik'
'barley'	B			psa B
'ice'	B	sha	sha	psha
'measles'	D			psad D
'evening'	J	syyrie; sarralc	seira; -sara	psar-lo J
'cold'		shial- cpd	shäl- cpd	pshel
		shiila	shiila	adj. psheliN

(18) They preserve it before -*x*-. *px*-:

		Chechen	Ingush	Batsbi	
'five'	*B?	pxi'	pxi'	pxi'	cf. *bii* 'fist' B
'vein, tendon'	B	pxa	pxa	pxa	

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[3] Similar clusters in Xinalugh.

		Chechen	Ingush	Batsbi
'fish sp.'	B		pxeandarjg / pxaandarjg	
'missile'	B	pxa 'arrow' pxeran	pxo 'bullet' pxona	
'scapula'	B/D	pxanar D	pxandar B pxeandar D	pxaner D
'shield'	J		pxar	
'coulter'	J	pxa+toeda D	pxead J	
'hornbeam' (*Carpinus*)	J	pxa pxoona pl. pxeenash	pxean	
'curdled milk'	J			pxe
'lid'	J			pxuv
'Khevsur'	V/J	pxi pxichyn	pxie	pxev
'sideways'			pxoragh	pxur
'pregnant'		pxar-, pxoora	pxoara	
'lively'?				pxit'oN

(19) *tx-*:

		Chechen	Ingush	Batsbi
'dew'	D (~J)	txi	txyr / txar	txir 'hoarfrost'
'wool fleece'	D	txa	txa	txe
'(hazel)nut'	D			txil
'*rez'ba*'	D	txir		
'we' (excl.)	D	txo	txo	txo
'ceiling, roof'	B	txou	txou	
sharp and rough			txiina	
'tonight'		txousa	txousar	txa+bus
'today'		taxana	taxan	txa

(20) Many but not all of these initial stops are head gender. (About half -- much higher % than the incidence of head gender overall.)

(21) Case-split head gender (unique to Nakh?)

	Ingush			Chechen	Batsbi
Nom	jett	'cow'	B	jiatt	jett
Gen	watta / aatta			aattan	attiN
Pl	doaxan		D (suppletive)	hweelii	
Nom	jexk	'comb'	J	jexk	jexk'
Gen	axkara			axkaran	axk'ajrĭ
Pl	axkarazh				
Nom	jish	'song'	J	jish	ish
Gen	aashara			eesharan	Erg. ashirv
Pl	aasharazh				
Nom	jis	'frost'	J	jis	--
Gen	aasara			eesaran	
Pl	(aasarazh)				
Nom	jol	'hay'	J	jol	jol
Gen	eala			aalan	aliN
Pl	(ealazh)				
Nom	joq'	'ashes'	J	juq'	jopq'
Gen	wouq'ara			ouq'aran	apq'riN
Pl	wouq'arazh				
Nom	jost	'fine soil, dust'	J	--	jobst'/jobsht'
Gen	aastara				apst'riN
Pl	aastarazh				
Nom	juu	'awl'	J	juu	jub
Gen	oura			oura	Erg. jubiv
Pl	ourazh				

probably also

	Ingush			Chechen	Batsbi
Nom	ust	'ox' < *'bull'	B D	stu BB	pst'u BD
Gen	istara			steran	pst'ariN
Pl	sherch			sterchii	pst'arch

and possibly

	Ingush			Chechen	Batsbi
Nom	ust-	'wife, married woman'		stu-	pst'u JD
* Gen	sie-	'woman, female'		stian (adj.)	pst'ie-
					stie(-chu-) 'wife'
Pl	istii B			stiash	pst'ej, pst'ii
??	suu JB	'princess, noblewoman'		stuu BB	--

(22) Discrepancies between languages suggesting additional similar splits:

	Chechen	Ingush	Batsbi
'cornel cherry' D	stov	estii / eastii	
	steen	estie	
'chisel' D	sto	ost(a)	st'o
	stanaran	ostan / ostaa	

Summary

(23)   Typological overview:
  Bantu family (Africa)
  Mayali and its sisters (Gunwinyguan; Australia) and neighboring families
  Nakh-Daghestanian

(24) Definition of head gender: Nouns carry markers from the same set as gender agreement
  morphemes.

(25) Head gender as partial vs. full category
  Bantu   Full: Every noun has head gender.
  Mayali, etc.   Nearly full: Some nouns have no (overt) head gender.
  Nakh-Dagh.   Partial: Most nouns lack head gender.

(26) Head gender classes as same vs. different from (agreement) gender
  Bantu   Same (some allomorphic differences)
  Mayali, etc.   Mostly the same
  Nakh-Dagh.   Often same; difference not rare. Allomorphy (e.g. *b/m*) frequent.

(27)   Do nouns have morphological classes other than head gender?
  Bantu   No
  Mayali, etc.   No
  Nakh-Dagh.   Yes

(28) Is gender assigned semantically?
  Bantu   Yes
  Mayali, etc.   Often or mostly
  Daghestanian Human referents: yes; others: in part
  Nakh   Human referents: yes; others: no

(29) Conclusion: Nakh-Daghestanian exhibits an extreme variety of a rare phenomenon.

Appendix: **Agreement** (spreading) **and stacking: case vs. gender** (for case see Bickel & Nichols 2007:235-238).

(28)   Case agreement in NP: Ingush

yz	b.oaqqa	qiera		cu	b.oaqqa-cha	qier-iica
DEM	B.big	stone		DEM.OBL	B.big-OBL	stone-INSTR
'the big stone'				'with the big stone'		

(29)   Gender agreement in NP: see (3)

(30)   Gender agreement in clause: Avar (Kibrik 1985:318)

Relh	lha-r	dede-r-e	^Cichal	(-gi)	r-oshun	r-o'a
she:2	here-4	father-4-DAT	apples:4	PTC	4-buy	4-TENSE

Relh	lhe	dede-r-e	^Cichal	(-gi)	r-oshun	j-o'a
she:2	here-2	father-4-DAT	apples:4	PTC	4-buy	2-TENSE

'She was buying applies for father here'

(31)   Case stacking: Old Georgian (Fähnrich 1991:197, from Bickel & Nichols 2007:237)

salx-man	israeyl-isa-man
house-ERG	Israel-GEN-ERG
'the house of Israel'	

(32)   Gender stacking: Luganda class prefixes, singular and plural.   (Wikipedia)

Class	On the noun		Adjective	Verb subject		Verb object	
I	(o)mu-	(a)ba-	same	a-	ba-	-mu-	-ba-
II	(o)mu-	(e)mi-	same	gu-	gi-	-gu-	-gi-
IV	(e)ki-	(e)bi-		ki-	bi-	-ki-	-bi-
VI	(a)ka-	(o)bu-		ka-	bu-	-ka-	-bu-

Origin of the noun and adjective initial vowel: doubling of the prefix:
         ba-ba > a-ba (Hyman & Katamba 1990, 1993)

omu-wala	omu-lungi		aba-wala	aba-lungi
I girl	I pretty		Ipl. girl	Ipl. pretty
'pretty girl'			'pretty girls'	

omu-sajja	a-nywa		aba-sajja	ba-nywa
I man	I drink		Ipl. man	Ipl drink
'the man is drinking'			'the men are drinking'	

(33)   Tame example of gender stacking: Spanish *la casa, el toro* (article = head gender word)

(34)   **Gender stacking is a head gender phenomenon. Does it occur in Nakh-Daghestanian?**

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