The locus of gender in Tashlhiyt Berber nouns

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1. Introduction

- Gender is a robust category in Afroasiatic languages; there is a binary distinction (masculine vs. feminine).
- Masculine generally has no overt marking, as opposed to feminine.
- Unlike in Semitic, where feminine gender is marked at the right edge of the noun (e.g. Arabic *tˤifl* 'kid.MS' / *tˤifl-a* 'kid.FM'), Berber has this peculiar property of using what seems to be a "circumfix" (e.g. *afrux* 'boy' / *t-afrux-t* 'girl').
- Among feminine nouns, either part of this affix may not appear in certain nouns, giving rise to forms like:
  - *t-izi* 'time', *t-awda* 'fear', and *t-argʷa* 'stream, brook'
  - *l-bhim-t* 'animal', *l-ħrf-t* 'profession', and *l-musˤib-t* 'catastrophe'.
- The latter are borrowed nouns, mainly adapted from Arabic with their prefix /l-/ which does not denote definitness.
- Interestingly, these loans may also exhibit a final vowel (usually [-a], feminine marker in Arabic) instead of suffix [-t] (e.g. *l-ħrf-a*, *l-musˤib-a*).
- The existence of feminine nouns with only prefixed [t-] may lead to the conclusion that the canonical locus of gender is at the left edge of the noun.
- However, a key fact: feminine nouns of this type all end with a vowel.
- More generally, feminine nouns systematically end either with a vowel or with [t].
- No feminine noun ends with a consonant other than [t] (as opposed to masculine nouns which may end with any type of consonant).
- Based on evidence from native and loanwords morphology, we will propose that:
  - The canonical locus of gender is suffixal.
  - Its alleged circumfixal nature results from a copy of a [+gen] feature to an obligatory affixal position to the left of the nominal stem.
  - That is, a prefixal [t-] appears whenever the noun is feminine and the prefixal position is available.
- The proposal also explains several otherwise unmotivated facts in the nominal morphology:
  - The lack of feminine nouns ending in a consonant other than [t].
  - The complementary distribution, *among feminine nouns*, of final [t] and a stem final vowel (in triconsonantal stems).
  - The ubiquity of the prefix [l] in borrowed nouns.

2. Setting the problem: Gender inflection at both edges
2.1. Gender and other markers at the left edge

- Almost all studies of Berber morphology focus on the inflectional position at the left edge of the noun, in which not only gender, but also state/case and number can be marked (see Guerssel 1992, Ouhalla 1996, Annaji 2001, Bendjaballah 2011, Bendjaballah & Haiden 2008, Lahrouchi 2011, 2013, Shlonsky 2014, Ben Si Said 2020, among others).

(1)   Gender, number and state alternations at the left edge

	SG				PL			
	FS		CS		FS		CS	
	MS	FM	MS	FM	MS	FM	MS	FM
'boy/girl'	a-frux	ta-frux-t	u-frux	t-frux-t	i-frx-an	ti-frx-in	i-frx-an	t-frx-in
'ox/cow'	a-funas	ta-funas-t	u-funas	t-funas-t	i-funas-n	ti-funas-in	i-funas-n	t-funas-in
'mouse'	a-ʁrda	ta-ʁrda-t	u-ʁrda	t-ʁrda-t	i-ʁrda-jn	ti-ʁrda-tin	i-ʁrda-jn	t-ʁrda-tin
'pigeon'	a-tbir	ta-tbir-t	u-tbir	t-tbir-t	i-tbir-n	ti-tbir-in	i-tbir-n	t-tbir-in

- The initial (thematic) vowel [a-] in the SG alternates with [i-] in the PL (coupled with -n suffixation).
- In the FM.PL, only initial [t-] appears (suffixed [-t] is replaced by a vowel -i-).
- FS [a-] alternates with CS [u-] in the M.SG forms, while the corresponding PL forms display an invariable vowel [i-].
- In the FM.SG, CS forms display only gender [t-] (without [u-]), similarly the corresponding PL forms lack the vowel [i-] in the CS.
- Table (2) summarizes the distribution of prefixes.

(2)   The distribution of nominal prefixes

	SG		PL	
	MS	FM	MS	FM
FS	a-	ta-	i-	ti-
CS	u-	t-	i-	t-

- Some nouns show a stable initial vowel (3b), which remains unchanged in SG and PL, FS and CS: we shall refer to it as the "non-thematic" vowel.

(3)   Thematic vs. non-thematic vowel (see Dell & Jebbour 1991)

			SG	PL
a. 'mountain'	FS		a-drar	i-drar-n
	CS		u-drar	i-drar-n
b. 'widower'	FS		adgal	adgal-n
	CS		w-adgal	w-adgal-n

2.2. Previous analyses

Guerssel (1992)

- In the FS, initial [a] is analyzed as a kind of "portmanteau" morpheme which realizes two functional heads D and K.
- In the CS, initial [w] stands for D.

(4)   [azru] 'rock-FS', [s wzru] 'with the rock', [wzru] 'rock-CS'
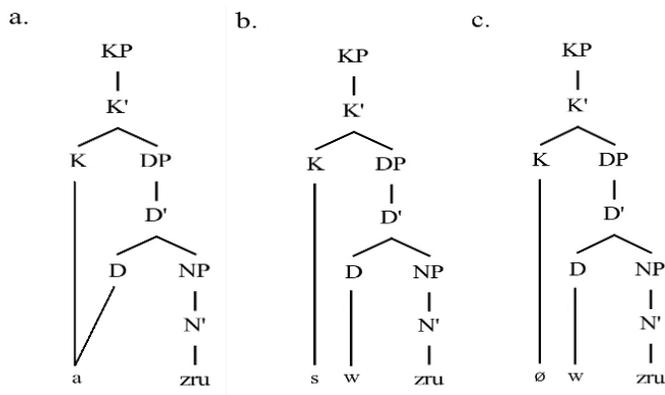
- According to Guerssel, the initial site is complex: it realizes two distinct syntactic heads.

- This point of view is further developed in Bendjaballah & Haiden (2008): each head corresponds to a CV unit.

Bendjaballah & Haiden (2008): Kabyle nouns

- In the FS, both CVs of the prefixal site (in bold) are filled (5a), in the CS only the inner CV is (5b).

- Following Lowenstamm (1991), peripheral vowels are analyzed as being underlyingly long.

(5)   M.SG

a.   FS: [axxam] 'house'   b.   CS: [wəxxam]

  CV   **CV**   CV   CV   CV   CV   **CV**   **CV**   CV   CV   CV   CV

      \   /   \   / | | | \   / \   / |

        a   x   a   m   w   x   a   m
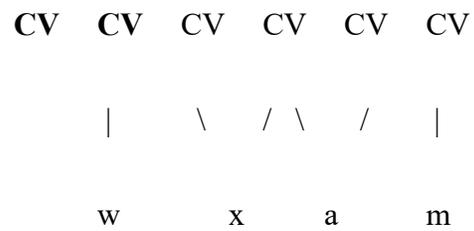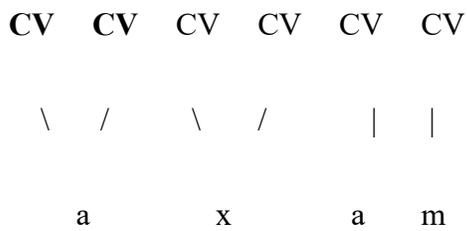
(6)   F.SG

a.   FS: [θaxxamθ] 'room'   b.   CS: [θəxxamθ]

  CV   **CV**   CV   CV   CV   CV   CV   **CV**   **CV**   CV   CV   CV   CV   CV

  | \   /   \   / \   / | | | \   / \   / | |

  θ   a   x   a   m   θ   θ   x   a   m   θ
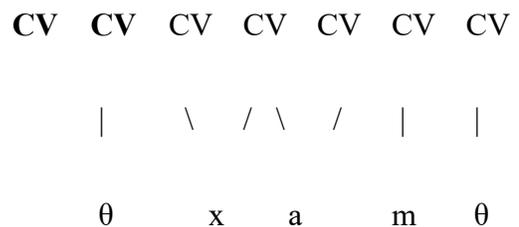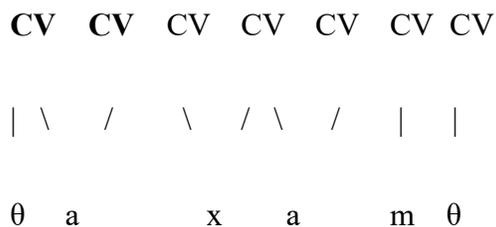
- FM marker [θ-] is associated to the outer CV in the FS form (6a), but to the inner CV in the CS (6b).
- [w-] and [θ-] compete for the same position (inner CV) in the CS.

Lahrouchi (2013) motivates the selection of [t-] through its lower morphosyntactic position.

(7) a. F CS: *tfruxt 'girl'*   b. M CS: *wfrux > [ufrux]*

```
        DP                              DP
       /  \                            /  \
      D    \                          D    \
            nP                  w           nP
           /  \                            /  \
          n    √                          n    √
         CV                              CV
         t    frux                       Ø    frux
```

Bendjaballah (2011)

-   Non-thematic vowels invade the inner CV of the prefixal site.

(8)   A non-thematic vowel occupying part of the initial site: [asif] 'river' (CS [wasif])

```
C   V   C   V  -  C   V   C   V   C   V   C   V
|        \ /      |        \ /      |
(w)       a       s         i       f
```

2.3 Loanwords

-   In loans (from Arabic or other languages), an [l-] is realized in the same site, **blocking all other markers.**

(9)   Prefix [l-] in loanwords
  a.   lbanju   'bathtub' (Sp. [baɲo])
       lbarˤaʒˤ   'dam' (Fr [baʁaʒ])
       lasˤl   'ancestry' (Ar [asˤl])
       lˤorˤdinatur   'computer' (Fr. [oʁdinatœʁ]
       ladris   'address' (Fr. [adʁɛs])
  b.   lkuzina   'kitchen' (Sp. [kosina])
       lmusˤibt~lmusˤiba   'catastrophe' (Ar. [musˤiba])
       lħrft~lħrfa   'profession' (Ar. [ħrfa])
       lbakit_F   'package' (Fr. [pake]_M)
       loqt_F   'time' (Ar. [wəqt]_M)
       lˤanba   'lamp' (Sp. [lampa])

-   We are not aware of any study which has addressed this issue.

Summary   From all of the above, it emerges that:
- Space in the initial site is limited: markers compete for realization in this site.
- Gender marking may be absent from the left edge (when there is an [l-])
- Gender marking is regular; it is always [t-].

- Not so at the right edge of the noun:

2.4 Gender at the right edge

- Less attention has been devoted in published work to gender inflection at the *right* edge of the noun (but see Idrissi 2000: 109).

(10)   Gender marking at the right edge: C-final stems => form feminine with [-t]

M.SG		FM.SG	
afruχ	'boy'	t-afruχ-t	'girl'
afunas	'ox'	t-afunas-t	'cow'
azalim	'onion (coll.)	t-azalim-t	'onion (sing)'
aglaj	'testicle'	t-aglaj-t	'egg'
aʁalim	'reed'	t-aʁalim-t	'fishing rod'
iskr	'fingernail'	t-iskr-t	'garlic'

(11)   Gender marking at the right edge, V-final stems: masculine+[-t] => feminine

M.SG		FM.SG	
isli	'groom'	t-isli-t	'bride'
aʕzri	'teenager'	t-aʕzri-t	'teenager'
ifili	'string'	t-ifili-t	'necklace'
azuknni	'oregano'	t-azuknni-t	'thyme'

FSG
t-urfa	'alley'
t-aguni	'sleep'
t-awda	'fear'
t-azzla	'running'
t-igmmi	'house'

Summary:

	Stem C-final	Stem V-final
Masculine N	√	√
Feminine N	√ -t	√ **no -t**

- Unlike at the left edge:
  - Gender is always marked; but
  - Gender marking is variable: it is either [-t] or a final vowel.

- Note that final vowels do not necessarily imply feminine gender.

▪ We will now show that the tools presented above predict the variability of gender marking at the right edge.

3. analysis

3.1. Basic cases

(12)   M.SG V-final nouns

```
       a            ʕ      z      r       i
      /\            |      |      |      /\
  C  V  C  V  -  C  V  C  V  C  V  C  V
```

(13)   Corresponding F form:

```
   t      a            ʕ      z      r       i         t
   |     /\            |      |      |      /\         |
   C  V  C  V  -  C  V  C  V  C  V  C  V  -  C  V
```
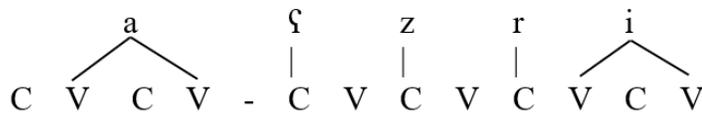
(14)   Thematic vs. non-thematic nouns - reminder

		SG	PL
a. 'mountain'	FS	a-drar	i-drar-n
	CS	u-drar	i-drar-n
b. 'widower'	FS	adgal	adgal-n
	CS	w-adgal	w-adgal-n

(15)   Non-thematic vowel invading initial site (blocking number inflection)

```
              a          d      g      a       l
             /\          |      |      /\      |
  C  V  C  V  -  C  V  C  V  C  V  C  V  C  V
```

7
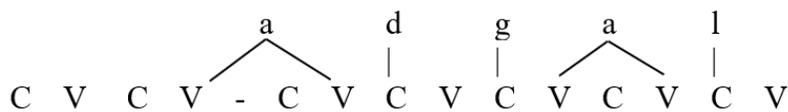
▪ Prediction: at the right edge, too, a final vowel can spread to occupy the final site, thereby blocking gender inflection [-t].

(16)   Non-thematic vowel invading final site, blocking [-t]

```
       t   a          ʁ   a   w   s   a   t
       |  /\          |  /\   |   |  /\
       C  V  C  V  -  C  V  C  V  C  V  C  V  -  C  V
```
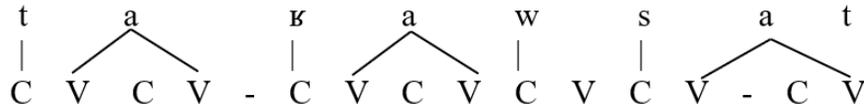
▪ This derives vowel-final feminine nouns.

=> A feminine noun can be either vowel-final or [t]-final.

3.2. Support form loans

▪ The obligatoriness of gender marking at the right edge is also true of loanwords, where - as will be recalled - [l] blocks all inflection at the *left* edge.

▪ Again, one finds either a final vowel *or* a final [t], and *sometimes variation* between the two.

(17)   V-final feminine loanwords
          lkuzina   'kitchen' (Sp. [kosina])
          lmusˤibt~lmusˤiba   'catastrophe' (Ar. [musˤiba])
          lħrft~lħrfa   'profession' (Ar. [ħrfa])
          lbakit_F   'package' (Fr. [pake]_M)
          loqt_F   'time' (Ar. [wəqt]_M)
          lˤanba   'lamp' (Sp. [lampa])

▪ Sometimes, loans with original masculine gender become feminine because they are vowel final: [lpartma]_F 'apartment' [lmagaza]_F 'store'(both M in French).

(18)   Vowel-final feminine loan

```
          l           ħrf  a       t
          |           |___  _____
      C  V  C  V  -       V  -  C   V
```

8
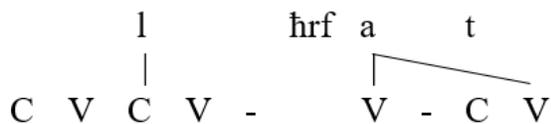
(19)   Same noun, [t]-final: /a/ cannot associate, only one position

```
      l            ħrf  a      t
      |                        |
   C  V  C  V  -       V  -  C  V
```
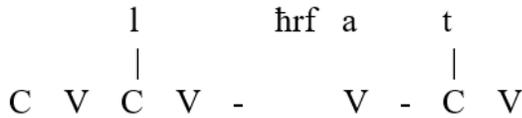
▪ We do not know *why* [t-] is blocked from the *left* edge in these cases, only that [l] blocks it as it does all other inflection.

▪ Possibly, since loans are not inflected for state, they simply lack the first of the two prefixal CVs:

(20)   No place for gender-marking prefix [t-] in loans

```
      l            ħrf  a      /t/
      |                 |       |
      C  V  -       V  -  C  V
```
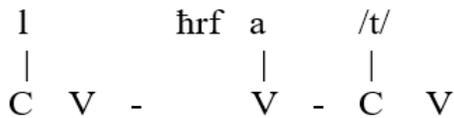
To summarize, loans show that

- Final vowels and [t] alternate in gender marking.

- Assuming [l] occupies the only initial CV, [t-] is blocked from appearing at the left edge.

=> appears only in its canonical position, at the right edge.

4. Thematization

▪ loans carrying [l-] *can* undergo a process of thematization in evaluative morphology; and the blocking of regular inflection by [l] is undone:

(21)   Thematized loans

Loan	Augmentative	Diminutive	
l-muss	a-l-muss	t-a-l-muss-t	'knife'
l-kamjun	a-l-kamjun	t-a-l-kamjun-t	'truck'
l-garˤaзˤ	a-l-garˤaзˤ	t-a-l-garˤaзˤ-t	'garage'
l-brmil	a-l-brmil	t-a-l-brmil-t	'barrel'

▪ We interpret this as the addition of another inflectional site on top of the lower one; as well as the final site in diminutives.

(22)   A thematized loan

```
(t)      a         l        muss      (t)
 |      /\         |                    |
 C    V  C  V  -   C  V  -        -  (C  V)
```

5. Concluding remarks

▪ All feminine nouns are marked on the right edge either by [t] or by the occupation of the gender position by the stem final vowel.

▪ This position is *always* realized.

▪ Its realization by the vowel or [t] is an unpredictable, idiosyncratic property of the feminine noun, (as opposed to the realization of [t] at the *left* edge, which is completely regular).

▪ We therefore designate the final position as the basic/canonical position.

▪ The initial [t] is the realization of a copied gender feature; it is realized unless blocked by [l].

Extension: An alleged circumfix also appears in verbs (in color).

(23)   Verbal paradigm [nkr] 'rise'

		Sg	pl
1		nkr-ʁ	n-nkr
2	M	**t**-nkr-**t**	**t**-nkr-m
	F		**t**-nkr-m-**t**
3	M	i-nkr	nkr-n
	F	**t**-nkr	nkr-n-**t**

▪ However, one can assume that the initial [**t**] stands for 2p (as evidenced by the two 2p plurals); only the 2nd [**t**] is a feminine marker.

▪ In the 3p.f.sg, feminine [**t**] can appear at the left edge *because* there is no person marking (see Harbour 2007: Person dominates gender/number and pushes them to the right edge).

t_2-nkr => t_2-nkr-m_{PL}-t_{GEN} Ø-nkr   => t_{GEN}-nkr

     | |

m_{PL},t_{GEN} t_{GEN}

    'you(f.pl) rose'   'she rose'
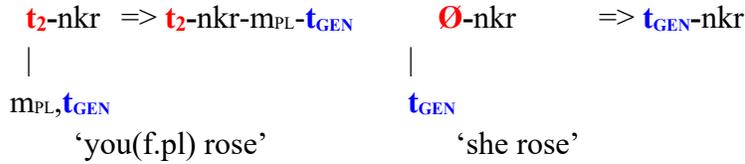
▪ Under this view, verbs, unlike nouns, have a canonical position at the *left* edge.

(There are complications, but they're for future research!)

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