bu-nouns in Tashlhit
An oft-overlooked complex morphosyntactic corpus

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1. Introduction

1 In the literature on Amazigh linguistics, bu-nouns (buNs) (like buutm  ‘the owner of the house’) have been dealt with only sporadically and have at times even been overlooked, notwithstanding their being very common (see Bensoukas 2013a-b for a review). A very productive process, buN formation presents diverse interesting phenomena, including the overall morphology of buNs and the morphosyntactic complexity of their inner nouns. id-pluralization also calls attention to the inflectional morphology buNs share with a larger gamut of nouns, including names, kinship terms, loanwords, and compounds. Also, the recursion that bu and id may exhibit is intriguing.

2 In this paper, we will present a corpus of Tashlhit buNs, bringing to the fore their challenging linguistic behavior as well as their theoretical relevance. Extensions to other dialects of Amazigh are suggested on the basis of the available data. In our description of the morphosyntax of buNs, different issues will emerge such as periphrasis, alienable vs. inalienable possession, the order of morphemes, syntax within words, the recursion of affixes, and the organization of the lexicon. The morphology of buNs will be shown to present challenges to robust generalizations about morphological organization, namely Greenberg’s Universal 28, the Lexical Integrity Hypothesis and the No Phrase Constraint.

3 We proceed as follows. In § 2, we describe the morphology and semantics of buNs and compare them to their periphrastic counterparts. § 3 highlights the morpho-syntactic complexity of buNs. § 4 describes id-pluralization, which concomitantly sets buNs apart from ‘normal’ nouns and aligns them with other morphologically simple or complex nouns. A comparative approach is attempted in § 5, placing Tashlhit buNs in a larger Amazigh context.
2. Tashlhit bu-nouns

2.1 Productivity and semantic richness

BuN formation is very productive, affecting nouns that are native (1) and borrowed (from Moroccan Arabic (2a) and French (2b)). For descriptive convenience, we distinguish the ‘inner’ noun, the one to which the affix bu attaches, from the ‘outer’ noun, the entire buN combination. In some frozen native nouns (1a), the inner noun has a bleached meaning or otherwise does not stand alone. The inner noun is generally in Construct State (CS) form:

(1) a. buʒʒɣlal ‘snail’
    butagant ‘boar’
    buttgra ‘turtle’
    busskka ‘snake’
    butllis ‘nyctalopia’

b. bu+agajju buwgajju ‘strong-headed person’
    bu+aɛɛɛ buwɛɛɛ ‘one who sells butter-milk’
    bu+anu buwanu ‘owner of the well’
    bu+urti buwurti ‘owner of the orchard’

bu+imi bujmi ‘someone with a big mouth’

(2) a. bu+Arabic loans
    bu+zzrri buzzrri ‘seller of dried fruits’
    bu+ʒʒlililil ‘layer of tiles’
    bu+rξrxam burrxam ‘marble craftsman’
    bu+ɲɲn3 buɲɲn3 ‘doughnut seller’

b. bu+French loans
    bu+ssinima bussinima ‘owner of the cinema’
    bu+lesai bulalesai ‘owner of the gymnasium’
    bu+labatri bulabatri ‘drummer’
    bu+libitiz bulibitiz ‘one who messes around’

Meaning-wise, bu expresses the generic notion of ‘the one with X’, where X stands for any noun, as in bulmal ‘the rich one (lit. the one with money)’. In this respect, it is opposed to the generic meaning ‘the one without’, expressed by war in warlmal ‘the poor one (lit. the one without money)’, and its feminine counterpart tar in tarlmal, for example. Nevertheless, buNs denote more specific meanings (3): ownership, personal characteristics, and professions. Also, some buNs have become lexicalized, others once used as nicknames have become proper nouns, and others yet are used idiomatically (4).

(3) a. Ownership: butgmmi (bu+house), butfunast (bu+cow)

b. Profession: buwuna (bu+wells), butammnt (bu+honey), butjini (bu+dates), bijsliman (bu+fish), buɣɣum (bu+bread), bijlmawn (bu+skins (of animals))

b. Personal characteristics: bulmal (bu+money), butfustt (bu+small hand), bijslmila (bu+big feet), bustta (bu+six (fingers)), biijini (bu+mouth), buwnlig (bu+belly), bumtʒʒuŋt (bu+small ear), butamartt (bu+beard), buwmggdr (bu+neck)

(4) a. (i) Personal names: buwdad (bu+finger), buwmmʒʒuŋ
    (bu+ear), buwffus (bu+hand), buwʃʃaras (bu-way), butgajjut (bu+small head), buʃʃja (bu+beard), buwulli (bu+livestock), biʃʃddign (bu+flowers), bijrmawn (bu+tigers), bijzgarn (bu+cattle), bijjr (bu+stones); (ii) Toponyms: buwargan, buwbud, bijkarran, bijg⁷ra, bijzakarn, bijgudijn; (iii) Animal names: butagant
'boar', buttgra 'turtle', bumturnd 'hedge-hog', butfala 'viper', buusskka 'snake';
(iv) Insect names: bu33ylal 'snail'; (v) Illness names: butllis 'nyctalopia'; (vi) Plant names: buqas 'kind of parasitic plant'

b. (i) Idiomatic expression: bijggwrdan 'jail (lit. the one with fleas)'; (ii) Euphemisms: butmšarin 'womanizer (lit. the one with women)', buddrit 'pedophile (lit. the one with children)'

2.2 A related periphrastic expression

In Tashlhit, ownership is also expressed periphrastically as in the multi-word expression bab n tgmmi 'the owner of the house'. To our knowledge, this periphrasing has not received due attention, except for sporadic mentions (e.g. Boukris et al. 2008; Elmoujahid 1981, 1997; Galand 2010; Sadiqi 1997). Periphrastic ownership nouns in Tashlhit consist of masculine bab and feminine lal, which correspond to bu/mmu, respectively. In bab-Ns, the inner noun is obligatorily preceded by the preposition [n] 'of' and is in CS (5). While bab/lal cannot stand alone, they cannot be considered affixes, either, on account of their syntactic behavior. This is probably consonant with their being bound words/roots (Bensoukas 2013a).

Concerning gender and number markings, buNs and bab-Ns are similar. The masculine and feminine plurals of the periphrastic forms respectively have id and istt concatenated with them rather than 'replacing' them. This is reminiscent of the pluralization of buNs. Another characteristic the two nouns share is the complex inflectional patterns of the inner noun.

(5)

<table>
<thead>
<tr>
<th></th>
<th>bu-tgmmi 'house'</th>
<th>Periphrasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sg.</td>
<td>butgmmi</td>
<td>bab n tgmmi</td>
</tr>
<tr>
<td>Pl.</td>
<td>idbutgmmi</td>
<td>idbab n tgmmi</td>
</tr>
<tr>
<td>F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sg.</td>
<td>mmutgmmi</td>
<td>lal n tgmmi</td>
</tr>
<tr>
<td>Pl.</td>
<td>isttmmutgmmi</td>
<td>isttlal n tgmmi</td>
</tr>
</tbody>
</table>

One basic difference between buNs and bab-Ns relates to the (in)alienability of the possession they express. Inalienable possession refers to items considered part of oneself intrinsically (e.g. body parts), whereas alienable possession refers to acquisitions through one's life (e.g. objects or possessions). Compare for example the items in (6a), where bu and bab express alienable ownership synonymously. In (6b), on the contrary, bu expresses inalienable, while bab expresses alienable, possession:

(6) a. butgmmi = bab n tgmmi 'owner of the house'
    b. buwgajju ≠ bab n ugajju
       'the one with the head' 'owner of the head (e.g. of a sheep)'

In other words, while bab can only convey alienable possession, bu can denote both alienable and inalienable possession.
3. Morphosyntactic complexity

3.1 A complex morphology

In buNs, the inner and outer nouns show quite conspicuously puzzling inflectional behavior. First, the outer nouns take quite different inflectional affixes from the ones the inner nouns take. Second, buNs contain inflectional morphology inside them, a particularly challenging aspect for Greenberg’s Universal 28 if bu is considered a derivational affix.

3.1.1 Outer vs. inner nouns: Different inflections

The inner nouns are overtly marked for both the inherent inflections of gender and number and the contextual inflection of case; however, while the outer nouns take inherent inflections, they are not overtly marked for case. In (7a), the outer noun is singular, while in (7b) it is plural. In both cases, the inner nouns may be inflected for number, gender, and of course the compulsory CS.

(7) a. Sg. buN ‘the one with the hand(s)’

<table>
<thead>
<tr>
<th>M. Sg.</th>
<th>F. Sg.</th>
<th>M. Pl.</th>
<th>F. Pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>inner N</td>
<td>inner N</td>
<td>inner N</td>
<td>inner N</td>
</tr>
<tr>
<td>M. buwfus</td>
<td>butfustt</td>
<td>bijfassn</td>
<td>butfassin</td>
</tr>
<tr>
<td>F. mmuwfus</td>
<td>mmutfustt</td>
<td>mmijfassn</td>
<td>mmutfassin</td>
</tr>
</tbody>
</table>

b. Pl. buN ‘the ones with the hand(s)’

<table>
<thead>
<tr>
<th>M. Sg.</th>
<th>F. Sg.</th>
<th>M. Pl.</th>
<th>F. Pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>inner N</td>
<td>inner N</td>
<td>inner N</td>
<td>inner N</td>
</tr>
<tr>
<td>M. idbuwfus</td>
<td>idbutfustt</td>
<td>idbijfassn</td>
<td>idbutfassin</td>
</tr>
<tr>
<td>F. isttmmuwfus</td>
<td>isttmmutfustt</td>
<td>isttmmijfassn</td>
<td>isttmmutfassin</td>
</tr>
</tbody>
</table>

Concerning gender, M. bu alternates with F. mmu. In contrast, the inner noun may appear with the F. circumfix t...t. Also, concerning number, the outer nouns take M. id or F. istt, concatenated with the entire buN. The inner noun may also be plural, yet the pluralization mode is either sound or broken, as for normal nouns. In (7), all the inner plurals are sound, but broken plurals are also possible, like in buwuna ‘the one with well (s)’. Finally, the outer noun does not bear any overt CS marking. Contrariwise, the inner noun obligatorily occurs in CS and bears its mark overtly; inner nouns in FS are simply illicit (e.g. *buafus, *butafustt).
To conclude, buNs display an asymmetry in that the inner nouns are overtly marked for both the inherent (gender and number) and contextual (case) inflections, whereas the outer nouns are marked overtly for inherent inflections but definitely not for contextual inflection.

3.1.2 Morpheme order

The second challenge we deal with relates to the fact that buNs contain inner nouns inflectionally marked for gender, number and case.

As \textit{bu} cannot be treated as an inflectional affix, this is a clear case of derivation occurring outside inflection. This is a serious challenge to Greenberg’s (1963: 93) Universal 28: “if both the derivation and inflection follow the root, or they both precede the root, the derivation is always between the root and the inflection” (see also Principle#505 of The Universals Archive). buNs reflect just the opposite situation: Compare (8a), what Universal 28 dictates, and (8b), the actual behavior of buNs:

\begin{align*}
(8) & \text{a. Universal 28:} \\
& \text{Inflection} \ast \text{Derivation} \ast \text{Root} \ast \text{Derivation} \ast \text{Inflection} \\
& \text{b. buNs: buwfus \textit{bu} (=derivation) } \ast \text{\textit{u} (=CS inflection)} \ast \text{fus (=Root)}
\end{align*}

As can be seen, the order of the affixes in the buN in (8b) is reversed, with derivation appearing outside inflection.

One possible way to reconcile buN-formation and Universal 28 is to posit \textit{bu} as a special type of affix, i.e. a phrasal affix (see Bensoukas (2013a) for arguments). In this conception, \textit{bu} attaches at the word or phrase level, a position amply justified. This so being, \textit{bu} attaches to words that are fully inflected and that can appear in certain cases with modifiers and accordingly form phrases (see § 3.2).

3.1.3 Lexical integrity

The last challenge buNs pose is one related to the Lexical Integrity Hypothesis, stated in Anderson (1992: 84) as “the syntax neither manipulates nor has access to the internal structure of words” (see also Booij 2009; Lieber and Scalise 2007).

In buNs, the affixation of \textit{bu} induces the CS. Generally, the inner noun is marked for CS regardless of its gender or number specifications. Recall from (8) that the inner noun in \textit{buwfus} is marked for CS. The corresponding \textit{F. tfustt} is also marked for CS; accordingly, the buN containing this form is realized as \textit{butfustt}. The same thing happens with plural inner nouns: \textit{bijfassn} and \textit{butfassin} both reveal overt CS morphology.

As already pointed out, the CS is a contextual, case inflection which is sensitive to syntax. Therefore, buN-formation seems to be a morphological operation in which syntax is taking place, and syntax just seems to “manipulate” or “have access” to word internal structure. This behavior clearly breaches the Lexical Integrity Hypothesis.

3.1.4 Recursion

(9) contains buNs showing a certain amount of recursion: \textit{bu} is repeated or co-occurs with the feminine \textit{mmu}. (9a) gives a case of frozen buNs, and (9b) gives both M. and F. outer
buNs, with an inner noun in the feminine. These also show the same pattern of recursion, illustrating how general this aspect of the morphology of buNs can be.

(9) a. buttgra ‘turtle’
   bucbutgra/mmubbttgra ‘the one with the turtle, M./F.’
   b. mmidlan ‘the one with braids, F.’
   bummidlan/mmummiddlan ‘the one with the one with the braids (F.), M./F.’

In (10), we illustrate what we consider the most intriguing behavior: Recursion in buNs can yield quite long words, with bu and the plural id repeated consecutively in word initial position:

(10) buwgaju ‘strong-headed person’
   idbjgjjja ‘strong-headed persons’
   buidbjgjjja ‘father of strong-headed persons’
   idbuibidbjgjjja ‘fathers of the fathers of…’
   buibidbidbjgjjja ‘fathers of the father of the fathers…’

It is noteworthy that we can technically keep adding bu and id recursively. More significantly, if there are any constraints on the extent of such recursion, and there should be, these would be psycho-linguistic, or other, rather than purely morphological.

In Bensoukas (2012), this aspect of buN morphology is taken as evidence for the existence of mild polysynthetic morphology in Tashlhit. Typologically, fusional, agglutinative, isolating and polysynthetic morphologies are generally recognized. Other ways of classifying languages have been proposed, mainly using their degree of fusion and synthesis (Bynon 2004; Helmbrecht 2004 and references therein). De Reuse (2006: 746-747) (see also De Reuse 2009) lists five properties of polysynthesis: Productivity, recursion, concatenation, interaction with syntax, and lexical category change. Examples from English are anti- and re-, both productive and recursive affixes (e.g. anti-abortion, rewrite). The author uses the term “productive non-inflectional concatenation” (PNC) for such affixes, and asserts that languages can be mildly polysynthetic (a few PNC elements), solidly polysynthetic (over 100 PNCs), or extremely polysynthetic (several hundreds of PNCs).

Tashlhit morphology has been characterized as largely concatenative and non-concatenative (i.e. involving agglutination and fusion), even in single morphological classes like the plural. Never has there been mention of polysynthesis in Tashlhit. Bensoukas (2012) proposes that buN morphology probably reveals polysynthetic behavior. We have already seen how productive bu is. The most revealing, and actually quite intriguing, aspect of buNs is probably recursion, which is not documented. Although our data does not show lexical category change, buN morphology closely interacts with syntax in various ways (see § 3.2 below). An isolated case of noun incorporation may also be cited at this point, with some dialects of Tashlhit combining the expression jaʃ ijjixax laʃ ‘lit. suffer me/us hunger; I am/we are hungry’ into jaʃlaʃi/x, with subject and verb incorporated. The conclusion to be drawn is that, in addition to the concatenative, and obtusively non-concatenative, morphology in Tashlhit, there is a certain degree of polysynthetic behavior, qualifying Tashlhit to be a mildly polysynthetic language.⁸
3.2 Syntax within words

We now show that the inner noun is actually a potentially syntactically complex NP which can contain coordinated structures and be modified. These aspects further buttress our conceptualization of bu as a phrasal affix in Bensoukas (2013a).

3.2.1 Coordination and modification inside bu-nouns

We consider first inner noun coordination (11), where the conjunction expressing addition is underlined:

(11) bu lxʷḍrt d ddisir ‘The one who sells vegetables and fruit’
    bu tmχart d tarwa ʕizzanin ‘-- with the beautiful wife and children’
    bijlq”najinn d ifullusn ‘-- who sells rabbits and chicken’

Now we turn to modification. The inner noun of the buN in (12a) is not modified, an item to which we compare the items in (12b), all of which are pre-modified by a numerical expression.

(12) a. bu tmχarin ‘the one with the wives’
    b. bu jat tiṭ ‘-- one eye’
    bu sin iḍudan ‘-- two fingers’
    bu kraft ṭrwajd ‘-- three wheels’
    bu kkuzz tmχarin ‘-- four wives’

The patterns of modification the inner noun can be involved in may be quite complex. For instance, in (13) the noun is pre-modified by a numerical expression and post-modified by a clause, which makes it a quite complex NP:

(13) bu kkuzz tmχarin (lli) ur ginin i ʕid ula ʕinn
    ‘lit. the one with the four wives that aren’t useful here or there; the one with the four hopeless wives’

In another instance, the inner coordinated nouns can be modified by parentheticals, making buNs quite long:

(14) a. bu tmχart (lli) bafira isawaln d tarwa (lli) bafira baslnin
    ‘the one with the very talkative wife and the very spoilt children’
    b. bu lxʷḍrt lii jaχ bdda tsrrat d ddisir ilid ʕun ur tiwit
    ‘the seller of vegetables, which you have always abundantly given us, and fruit, which you have never bought’
    c. bu lxʷḍrt lii jaχ tsrrat ajliχṭt sur ur ntmnl d ddisir ilid sul ur
    tiwit ajliχ fīlajn att ntu
    ‘the seller of vegetables, which you have abundantly given us until we no longer like them, and fruit, which you no longer buy until we have almost forgotten it’

To sum up, inner noun coordination and modification show that buNs can have very complex internal syntactic structure. The No Phrase Constraint is definitely at stake in the formation of these nouns.
3.2.2 Modification and structural ambiguity

When the post-modifier of an inner noun is a participle, a PP, or a clause, cases of structural ambiguity may arise. We start with buN+participle configurations in (15):9

(15)

<table>
<thead>
<tr>
<th>buN+participle mẓẓin</th>
<th>i. ‘owner of small house’</th>
<th>ii. ‘house owner who is young’</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. butgmmi mẓẓin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. id butgmmi mẓẓin</td>
<td>‘owners of small house’</td>
<td></td>
</tr>
<tr>
<td>c. id butgmmi mẓẓinin</td>
<td>‘house owners who are young’</td>
<td></td>
</tr>
<tr>
<td>d. butgʷmma mẓẓin</td>
<td>‘owner of houses who is young’</td>
<td></td>
</tr>
<tr>
<td>e. butgʷmma mẓẓinin</td>
<td>‘owner of small houses’</td>
<td></td>
</tr>
<tr>
<td>f. id butgʷmma mẓẓinin</td>
<td>i. ‘owners of small houses’</td>
<td></td>
</tr>
</tbody>
</table>

(15a) and (15f) both display structural ambiguity. (16) shows the ambiguity with two internal constituencies corresponding respectively to whether the participle mẓẓin modifies the inner or the outer noun:

(16) bu+[tgmmi mẓẓin] ‘owner of small house’
    [bu+tgmmi] mẓẓin ‘house owner who is young’
    id+bu+[tgʷmma mẓẓinin] ‘owners of small houses’
    [id+bu+tgʷmma] mẓẓinin ‘house (Pl.) owners who are young’

The second kind of post-modification is that involving a PP or a clause. (17) presents two structures corresponding to buliqqamt ‘mint seller’ and a following PP n ḍuwwar ‘of the village’. In (17a), the mint seller concerned is the one in the village, while in (17b), we mean the seller of the mint which is grown in the village. In other words, the fact that the PP can modify the outer noun (17a) or the inner noun (17b) makes possible two readings of the buN:

(17) a. bu+liqqamt [n ḍuwwar]
    b. bu+[liqqamt n ḍuwwar]

In (18), we present an analogous situation, but this time the post-modifier is the clause ‘that comes from Tiznit’. The buN means the seller of mint who comes from Tiznit (18a) and the seller of the mint which comes from Tiznit (18b):

(18) a. bu+liqqamt [lli-d ittajan ɣ tznit]
    b. bu+[liqqamt lli-d ittajan ɣ tznit]
Note that the ambiguity disappears when buN is in the plural: provided the participle and
the noun agree in number, we get two forms (19a-b), corresponding to (18a-b),
respectively:

(19) a. id+bu-liqqamt [lli-d (i)ittaʃkanin ɣ tznit]
b. id+bu-[liqqamt lli-d ittaʃkan ɣ tznit]

3.2.3 The No Phrase Constraint

Because syntax seems to interfere with buN-formation, buNs pose a challenge relating to
the Lexical Integrity Hypothesis (§ 3.1.1). A further complexity relates to the No Phrase
Constraint, according to which “no phrase may appear within complex words”
(originally in Botha (1983); cited in Spencer (2005)). The main assumption behind the
constraint is that in forming words, the bases are other words, roots, or stems, but
definitely not phrases.

In § 3.2, two major aspects of buNs breach the No Phrase Constraint. buNs have been
shown to contain coordinated structures inside them. The second type of evidence we
have considered shows that the inner nouns can also be subject to quite intricate pre- and
post-modification. Concomitantly, a quite interesting array of structural ambiguity can be
witnessed with respect to buNs in Tashlhit.

In a nutshell, the inner nouns of buNs may exhibit a certain level of internal syntactic
complexity, a serious challenge to the No Phrase Constraint. Not only are inner nouns
simple nouns, but they may correspond to full-fledged phrases as well. This again
suggests that bu is a phrasal affix.

4. Special number marking: id-pluralization

As we have seen above, (outer) buNs use a special type of pluralization, concatenating id
or its F. form istt, before bu or mmu, respectively, a characteristic they share with bab-Ns.
Quite distinct from the normal concatenative and non-concatenative pluralizations, id-
pluralization has received only sporadic attention (Elmoujahid 1981, 1997; Galand 2010;
Sadiqi 1997), suggesting that id-pluralization is at best marginal. Evidence points in the
opposite direction. id-pluralization is not a particularity of buNs and bab-Ns. Rather,
various morphologically simple and complex nouns use it. The potential number of items
concerned is by all means significantly large, making id-pluralization more productive
than the other pluralization patterns.

4.1 Morphologically simple nouns

We start with personal names. Masculine names take the prefix id, while feminine ones
take istt (and alternately id):

(20) muarrêtmad - id muarrêtmad faʃma - istt faʃma
        ḥasan - id ḥasan ʕiʃa - istt ʕiʃa
        brəʃim - id brəʃim jamma - istt jamma

Note that the plural id muarrêtmad is distinct from ajt muarrêtmad, a collective noun meaning
‘Mohamed’s family’.10
Kinship terms also use id-pluralization. The first three kinship terms below are borrowings from Arabic, because of which they can potentially take id-pluralization. However, the remaining ones are native:

(21) M. Sg. - M. Pl. F. Sg. - F. Pl.
xali - id xalti - istt xalti 'maternal uncle'
ʕmmi - id ʕmmti - istt ʕmmti 'paternal uncle'
ʒ/ddi - id ʒ/dda - istt ʒ/dda 'grandfather'
dadda - id dadda lalla - istt lalla 'elder brother'
baba - id baba(tsn) inna - id inna(tsn) 'father'

The third set of items contains words having a certain expressive morphology in that they either have a pejorative meaning or indicate a hideous entity:

(22) baḥbu id baḥbu 'naïve person'
baarbun idbaarbun 'fat --'
ʔuzzu id ʔuzzu 'stinking --'
murran id murran 'callous --'
xittus id xittus 'despicable --'
babbuz id babbu 'dog'
xxuxu id xxuxu 'monster'
buʕʕu id buʕʕu 'monster'

Note the phonological similarity of some these items, at least as far as their beginnings and their overall prosodic patterns are concerned.

Finally, borrowings (directly from, or through, Arabic), be they common nouns (23a) or numerical and frequency expressions (23b), take id-plurals. A native numerical expression uses normal pluralization, as in ʿifd 'thousand' and sin waʃlan 'two thousand'.

(23) a. lkamju id lkamju 'truck'
lrabul id lrabul 'satellite dish'
lbabbu id lbabbu 'ship'
lurdinatur id lurdinatur 'computer'
b. rina id rina 'sometimes'
mija id mijja 'hundred'
ʃʃrin id ʃʃrin 'twenty'
alf id walf 'thousand'
mljun id mljun 'million'

The numbers in (23b) may contain loanwords entirely, or be expressed by combining native and borrowed numbers, the latter taking id-pluralization: tl tʃʃja/kraʃ id tʃʃja 'three hundred', tl alaf/kraʃ id walf 'three thousand', and tlata d ʃʃlajn/kraʃ id -mljun 'three million'.

4.2 Morphologically complex nouns

A number of morphologically complex nouns also use id-pluralization. We start with a special class of agentive nouns (24). These are recognizable through their meanings and their morphology, with their initial agentive noun affix m-. Compound nouns (25) also use id-pluralization.

(24) Noun Verb base
milluʃs - id milluʃs tʃʃ 'sleep'
Another type of nouns which take id-pluralization is the war-noun type. war is used to express the notion ‘without’. In certain contexts, war, whose feminine is tar, is the exact opposite of bu:

\[
\begin{array}{|c|c|}
\hline
& \text{‘work’} & \text{‘children’} \\
\hline
\text{M.} & \text{war tawwuri} & \text{war tarwa} \\
\text{Pl.} & \text{id war tawwuri} & \text{id war tarwa} \\
\text{F.} & \text{tar tawwuri} & \text{tar tarwa} \\
\text{Pl.} & \text{istt tar tawwuri} & \text{istt tar tarwa} \\
\hline
\end{array}
\]

### 4.3 id-pluralization: Some issues

id-pluralization raises at least three issues. First, why would a language need two types of pluralization? Mind that the Tashlhit ‘normal’ type of pluralization is rich and quite complex as it is. A related issue is how to formally predict the nouns undergoing normal pluralization and those undergoing id-pluralization. This hinges on the internal constituency of the nouns in question. Given the internal structure of some of the nouns subject to id-pluralization, especially the buN constructions, one might argue that id is an ad-phrasal affix, just like bu.

The second issue ensuing from the formalization of the difference between normal pluralization and id-pluralization is: Does morphological theory need to recognize ad-phrasal pluralization as a conceptual possibility? The facts of Tashlhit do suggest so. On the basis of the complex internal structure of buNs and periphrastic bab-Ns, it seems that id-pluralization does occur with phrasal affixes and bound stems.

The last issue is related to what it is that buNs and bab-Ns have in common with borrowings, kinship terms, and proper nouns so that they behave in a similar way regarding pluralization. This calls for a certain organization of the lexicon.
5. bu-nouns in the larger Amazigh context

This section is concerned with buNs from other varieties of Amazigh. Our sources consist of a grammar book, a collection of proverbs, and mainly dictionaries/glossaries.

5.1 Tamazight

Taifi (1991: 5) states that, in Ait Mguild Tamazight, bu, a M. Sg. taking a noun in CS, indicates a relation of belonging in a number of structures (27a). Its feminine counterpart is m/mm (27b) (ibid.: 193), and both F. and M. Pl. forms take id (ibid.: 50-51), the latter pluralization also being attested with compounds and loanwords (27c).

Related forms are bab, b-, aft, and lal.

(27) a. bu-t ħanut ‘owner of the grocery shop’
   bu-wallan ‘the one with eyes; the one with big eyes’
   bu-wdis (adis) ‘the (big) belly’

b. mm-urgaz ‘the man; married woman’
   mm-udis ‘the belly; pregnant woman’
   mm-irdjammm ‘the woman with tattoos’
   tāgrilt mm-ilqdan ‘the carpet with colored drawings’
   tāmtṭūt mm-itnajżifan ‘pretentious woman’
   mm-urṣjul ‘owner of the donkey’

c. id mm-itnajżifon ‘pretentious women’
   id bab-n-jigar ‘the owners of the field’
   id lal-uxam ‘the household, F.’
   id kʷnini Ṣraw ‘colonels’
   id məskunajż-xan ‘lit. push-dung; dung-beetle’

An interesting structure Taifi (1991: 365) mentions is a bu lalla faḍma nəyarajaf ‘we beseech you father of Mrs. Fatma’, where bu takes a noun that is pre-modified.

A similar situation holds in Ayt Wirra Tamazight (Oussikoum 2013). Frozen buNs take the circumfix ːt (M. burabbud ‘snail’; F. tuburābbudt, p. 395). Otherwise, bu and mm are preceded by id in the plural (id bujyōzdī ‘pivot animal (in beating)’, p. 399; id mm ifikkaf uχžif ‘girls with long hair’, p. 623). The feminine of periphrastic bab is lall, and both pluralize by the addition of id (ibid.: 591). Morphosyntactic complexity is also a characteristic of Ayt Wirra buNs, as in the nouns bu ixf ibnajżurr, ‘the one with the grey hair’ p. 394, and mm uʃakuf uχzmizif/id mm ifikkaf uχžif ‘girl(s) with long hair’, p. 623.

5.2 Fīguig

Our Fīguig data comes from Benamara (2013: 199-203). The usual buN morphology is attested overall, although there are some notable differences.

(28) afərdu (p. 31) ‘pestle’ bufərdu id bufərdu tbufərdutt
   fus (p. 238) ‘hand’ bufus id bufus tbufust
   ʕallaba ‘jellaba’ buʕallaba id buʕallaba buʕallabat
   akəbbs (p. 55) ‘belly’ bukəbbs id bukəbbs tбukəbbust
   aqṣqul (p. 105) ‘head’ buqṣqul id buqṣqul (?) tbuqṣqult
   iɣus (p. 271) ‘bone’ bujixsan id bujixsan tbujixsant
A number of frozen buNs are also listed (ibid.: 199-203). These refer to illnesses (buḍʕərwar ‘fatigue’; bunəggaf ‘asthma’; buʒəggəaʃ ‘measles’; buʒəllum ‘sciatica’; buʒətər ‘chickenpox’); plants, animals and insects (buʃəmmnmu ‘desert spiny lizard’; buʃninita ‘insect that defends itself by staying inert’; bururu ‘owl’; busəkkə ‘cobra’; busəltaʃ ‘kind of bird’; butəntəmba ‘insect that lives in flour’; buxəlala ‘desert plant’; buʃəkkək ‘wild chicory’); and dates (bufəqqs; buʃəfṣ; buʃəʒərdal; buʃəsũ; busəkri; buʃfənasən). All of the buNs listed so far have plurals in id, and when they do, they have feminine forms with circumfix t...t. bab-Ns are also attested (p.191) and form their feminine by lal/lalt (p. 287): bab n tiddart/ lal n tiddart ‘owner of the house’. Both the masculine and feminine pluralize by adding id. Data showing buN morphosyntactic complexity is not readily available, though.

Two aspects deserve special mention. First, some buNs in Figuig take normal nominal morphology, thus behaving more like frozen buNs.12

(29) budi ibuditn tbudit ‘seller of butter-oil’
bufusaj ibufusaj tbufusajt ‘right-handed’
buʒəlmaʃ ibuʒəlmaʃt ‘left-handed’

In Tashlhit, the corresponding buNs all have F. forms in mmu and Pl. forms in id/istt. More strikingly, Benamara does not list F. mm as a correspondent of bu. The only forms we managed to find are in (30), and their plurals suggest at first blush buN pluralization. The jury is still out, however, for at least two reasons: initial m(m) cannot be established as corresponding to bu, and id-pluralization in Figuig may also apply to certain action nouns (Benamara 2013: 256).

(30) mmusisi - id mmusisi ‘wagtail’ p. 316
mundaz - id mundaz ‘hell’ p. 324
musafələliq - id musafələliq ‘white-crowned wheater’ p. 324

5.3 Standard Moroccan Amazigh

In their reference grammar of Standard Moroccan Amazigh (St. MA), Boukhris et al. (2008: 36-40) point out the morphology of buNs just in passing. The inner noun is marked for CS, and F. m corresponds to bu (31a). Both pluralize by adding id, as do bab-Ns (31b-c). No items are provided that display morphosyntactic complexity.

(31) a. bu ihtlan mihtlan ‘liar’
b. butgra id butgra ‘turtle’
butəntəmgid butəntəmg ‘boar’
bu isəlmn id bu isəlm ‘fish seller’
m ufus id m ufus ‘one-armed, F.’
c. bab n tgmmi id bab n tgmmi ‘owner of the house’
lal n uxam id lal n uxam ‘wife’

In St. MA, buN morphology serves as a basis for coining terms used in the media and especially in grammatical description. In Ameur et al. (2009: 107), the following bu and bab nouns are meant for media:

(32) a. bab n tattuʃt tagldant ‘His royal highness’
bab n waddur ‘His majesty’
b. buʃfəjuf ‘hunger’
Likewise, Boumalk and Nait Zerrad (2009) provide the grammatical terms in (33a), taken up in context (33b) (Ameur et al. 2011: 43-44). Some of these involve a modified inner noun.

(33) a.

<table>
<thead>
<tr>
<th>Sg.</th>
<th>Pl.</th>
<th>p.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>bu jan uskkil</td>
<td>id bu jan uskkil</td>
<td>82</td>
<td>41 'monoliteral'</td>
</tr>
<tr>
<td>bu sin iskkiln</td>
<td>id bu sin iskkiln</td>
<td>81</td>
<td>25 'biliteral'</td>
</tr>
<tr>
<td>bu kraḍ iskkiln</td>
<td>id bu kraḍ iskkiln</td>
<td>81</td>
<td>57 'triliteral'</td>
</tr>
<tr>
<td>bu kkuẓ iskkiln</td>
<td>id bu kkuẓ iskkiln</td>
<td>81</td>
<td>50 'quadriliteral'</td>
</tr>
<tr>
<td>bu usmmud</td>
<td>id bu usmmud</td>
<td>81</td>
<td>57 'transitive'</td>
</tr>
</tbody>
</table>

b. 
\[ gd \text{ amjag bu jan uskkil} \text{ "do..." is a monoliteral verb} \]
\[ ml \text{ ... d imjang id bu sin iskkiln} \text{ "show..." are biliteral verbs} \]
\[ dryl \text{ d amjag bu kkuẓ iskkiln} \text{ "be blind" is a quadriliteral verb} \]
\[ imd \text{ ... d imjang id bu kraḍ iskkiln} \text{ "learn..." are triliteral verbs} \]
\[ gan imjang sin wanawn: amjag bu usmmud (ṣr, ml...)\]
'There are two types of verbs: Transitive verbs (see, show...).’

5.4 Kabyle

According to Dallet (1982: 4-5), bu in Kabyle takes a noun in CS (34a) and has a corresponding F. Sg. m, a M. Pl. aθ, and a F. Pl. suθ (34b). The inner noun shows the same inflectional complexity as in Tashlhit: it can be M. Sg. (34a) as well as F. Sg., M. Pl. and F. Pl. (34c):

(34) a.

ašolbu‘ ‘bald head’ bu šolbu‘ p. 812
ašobbu‘ ‘belly’ bu šobbu‘ p. 969
ašönsis ‘big belly’ bu šönsis p. 993
ašömmdad ‘cold (weather)’ bu šömmdad ‘rheumatism’ p. 779
əθəllis ‘eye weakness’ buəθəllis (cf. p. 55) ‘partial blindness’ p. 824
b.
\[ bu qäṛṛu \text{ (=>qəṛṛu p.672) m uqəṛṛu 'stubborn person'} \]
\[ bu znaβor (=>znaβor p.950) aθ znaβor ‘sb. wearing a mustache’ \]
\[ m izɑδççiqiɣən p.475 suθ izɑδççiqiɣən p. 5 ‘with flowers’ \]
\[ suθ qaθlμn in 'with hoods' p. 794 \]
c.
\[ izɔɾrɨbɨdən (=>izɔɾrɨbɨd ‘rags’) bu izɔɾrɨbɨdən p. 379 \]
\[ qaθnθədθ ‘frown’ bu qaθnθədθ p. 904 \]
\[ θiddas ‘kind of checkers game’ bu θiddas p. 160 \]
θixiðas (θixiðasθ ‘trick’) βu θixiðas p. 892
θix*obbirin ‘gossip’ βu θx*obbirin p. 889
θixnanasin (> (θ)axnanasθ ‘lechery’) βu θaxnanasin p. 904

bab-Ns are also mentioned, with their F. lall (Dallet 1982: 4-441) (βaβ ήγέλα ‘land owner’; laλ bb*axxam ‘wife’). The plural of bab-Ns is formed with imawlan (imawlan bb*acrarən ‘the owners of the sheep’).

Concerning morphosyntax, the data available reveals syntax within buNs in the form of modification and complementation. Pre-modifier numbers are attested within buNs as in βu jiwən jìj ‘lit. the one with one horn; unicorn’ (p. 70), axxam βu snəθ θəbbura ‘house with two doors; life’ (p. 4; also Nacib 2002: 184), ṭaxxamθ m sin ʧwiqan ‘room with two windows’, and βu sin w uəmawən ‘the one with two faces’ (Nacib 2002: 288). Moreover, post-modification is also attested, as in βu waçran inna ‘the owner of these sheep’ (Dallet 1982: 4) and βu əmgraθ ʧazuranθ ‘the one with the strong neck’ (Nacib 2002: 133). Complementation within buNs is another aspect of syntax within words, as in βu ʧiçli ʤ imçsawən ‘the one who accompanies shepherds’ (Nacib 2002: 189).

6. Conclusion

This paper has brought to the fore an oft-overlooked corpus of Tashlhit buNs. We also conducted a comparative approach. The following table summarizes the various buN affixes as well as their periphrastic counterparts.

<table>
<thead>
<tr>
<th></th>
<th>M. Sg.</th>
<th>F. Sg.</th>
<th>M. Pl.</th>
<th>F. Pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tashlhit</td>
<td>bu</td>
<td>mm(u)</td>
<td>id bu</td>
<td>istt/id mm(u)</td>
</tr>
<tr>
<td></td>
<td>bab</td>
<td>lal</td>
<td>id bab</td>
<td>istt/id lal</td>
</tr>
<tr>
<td>Tamazight</td>
<td>bu</td>
<td>m/mm</td>
<td>id bu</td>
<td>id mm</td>
</tr>
<tr>
<td></td>
<td>bab</td>
<td>lal(l)</td>
<td>id bab</td>
<td>id lal(l)</td>
</tr>
<tr>
<td>Figuig</td>
<td>bu</td>
<td>t...t</td>
<td>id bu</td>
<td>ti...in</td>
</tr>
<tr>
<td></td>
<td>bab</td>
<td>lal(t)</td>
<td>id bab</td>
<td>id lal(t)</td>
</tr>
<tr>
<td>St. MA</td>
<td>bu</td>
<td>mm</td>
<td>id bu</td>
<td>id mm</td>
</tr>
<tr>
<td></td>
<td>bab</td>
<td>lal</td>
<td>id bab</td>
<td>id lal</td>
</tr>
<tr>
<td>Kabyle</td>
<td>ßu</td>
<td>m/mm</td>
<td>aθ</td>
<td>suθ</td>
</tr>
<tr>
<td></td>
<td>βaβ</td>
<td>lal(l)</td>
<td>imawlan</td>
<td>imawlan?</td>
</tr>
</tbody>
</table>

The comparison has revealed a number of affinities as well as differences between the dialects of Amazigh examined. The affinities show that buN formation exhibits more or less the same cross-dialectal complexity.
Inherent in buN-formation are a number of empirical and theoretical challenges. The inner noun number, gender and case alternations, the periphrastic relationships, the id-pluralization pattern, and the possible recursion of affixes are all interesting aspects from a theoretical and typological stance. Even though buN-formation is a very promising field of inquiry into the morphology and syntax of the language, it has received only scanty treatment in the literature, which shows that we probably still have a long way to go.

BIBLIOGRAPHY


NOTES

1. For discussions of the materials contained herein, we are indebted to N. Amrous, A. Boumalk, Y. Hdouch, H. Khtou, R. Laabeloulou, M. Lahrouchi, J. Lowenstamm and M. Marouane. At the conference Études et recherches en linguistique et littérature amazighes: la mesure du sens et le sens de la mesure (Hommage au professeur Miloud Taïfi), FLSH, Sais-Fès, April 25-26, 2013, where we presented the core analysis of bu-nouns in Tashlhit, we benefited from comments by M. Ameur, F. Boukhris, A. Boumalk, C. Taine-Cheikh, as well as conversations with M. Benlakhdar, A. El
We use IPA transcription except for the dot underneath segments for emphatics; ḫ̂ is the emphatic palato-alveolar fricative. Double consonants correspond to geminates. Also, we have adapted the transcriptions in the sources to our protocol.

Abbreviations: Sg.=singular; Pl.=plural; M.=masculine; F.=feminine; N=noun; NP=Noun Phrase; PP=Prepositional Phrase; CS=Construct State; FS=Free State; lit.=literally.

2. We consider bu a phrasal affix on the basis of its being bound. Some sources treat buNs as compounds. See Bensoukas (2013a) for arguments against this conception. bab is treated therein as a bound word.

3. CS is a case-marking on the noun when it is a post-verbal subject, the object of a preposition or the complement of a numeral (e.g. Basset 1932; Chaker 1988; Guerssel 1983; Jebbour 1991; Saib 1982). CS contrasts with Free State (FS). Generally, CS morphology replaces the initial vowel [a] of M. Sg. nouns by [u] (agajju/aqajju ‘head’) and deletes that vowel in both Sg. and Pl. F. ones (tagajjut/ tgajjut; tigwajja/ tgwajja). A special class of nouns maintain their vowel in M. Sg., and CS vowel appears as a glide [w] instead (anu/wanu ‘well’; urti/wurti ‘orchard’). In the F. of these nouns, the initial vowel does not delete (tanut and turtit).

4. The data in (3-4) display two phonological processes. First, vowel assimilation results in bu/mmu alternating with bi/mmi when the singular or plural inner noun starts with [i] (bijmi, bijbajlin). Second, when the CS marking creates a hiatus *[u], the second vowel turns into the glide [w] (-buwgajju), and an analogous situation holds after [u] assimilated to [i] (bijbajlin). Alternately, one of the vowels may delete (bugajju/mmugajju).

5. “The term periphrasis ... refers to the use of longer, multi-word expressions in place of single words...” In its narrower sense, periphrasis refers to “a multi-word expression...used in place of a single word in an inflectional paradigm...” (Haspelmath 2000: 654). An example is more beautiful/*beautifuller. Spencer (2006: 287) provides a much similar definition and concludes that periphrasis is different from syntax in that periphrastic constructions express grammatical properties or are used derivationally (Ibid.: 293).

6. A reviewer has pointed out that, in some Tashlhit dialects, id-pluralization is used by both M. and F. buNs and suggested that an explanation other than regional variation is possible. In fact, the gender distinction of the plural marker is absent in some dialects, which also seems to be the case in Tamazight and Fiqgu. Kabyle is different; although suθ is used to pluralize F. buNs, the m (m) is not maintained (see § 5 below). More comparative work is necessary in this respect, and the historical dimension has to be considered, too. At this point, we may prima facie entertain two hypotheses: (i) leveling, involving a simplification of the morphology by using just id in plural buNs; or (ii) analogy, resulting in using istt, so that buNs have the same feminine plural morphology as the other related nouns (see § 4 below).

7. A related issue is that bu is not an inflectional affix, yet it is fully productive. This is incongruous on account of the tendency for derivational affixes to be ‘semi-productive’ and inflectional ones ‘fully productive’.

8. The range of this proposal is yet to be explored. Clearly, a deeper investigation is in order before establishing the extent of this polysynthetic behavior. We presently keep it to the minimum of ‘mildly polysynthetic’ until more substantial evidence is available.

9. Participles in Tashlhit can show number syncretism: mẓẓ in ‘small’, for example, can be both singular and plural. When syncretism is involved, the ambiguity becomes even more complicated. We do not pursue this here. In our examples, we do not syncretize for the sake of the clarity of the argument.

10. The Sg. of ajt is gg* and its F. is ultt. gg* alternates with u before a vowel initial noun. These forms occur in some kinship terms like g*ma/ Pl. ajtma ‘lit. the one from my mother; my brother’ and ultma/ Pl. isttma ‘my sister’, which are synchronically frozen expressions. Similar
synchronically decomposable words are M. *g*ugadir/*u* tznit and F. *ult* ugadir/*ult* tznit, and their plurals *ajt* ugadir/tznit and *istt* ugadir/tznit ‘the one from Agadir/Tiznit’.

11. Taifi (1991: 658) mentions in the entry to *ist* that, in addition to being the F. Pl. corresponding to *ajt*, it corresponds to F. Sg. *mm/m*. However, no examples of the latter use are provided.

12. A reviewer has rightly pointed out that the buN facts of Figuig are interesting and that further analysis than we have been able to provide is possible. It seems to us that in Figuig buN morphology is simplified in the feminine and maintained in the plural. The facts are not simple, though, since id-pluralization is used even with some action nouns (see Benamara 2013). Once more, more comparative and diachronic work is necessary.

**ABSTRACTS**

This paper presents a corpus of Tashlhit bu-nouns, in which bu generally expresses the possessor of what the inner noun refers to. Comparison with other dialects of Amazigh is undertaken, revealing the cross-dialectal complexity of this type of nominal formation. Notwithstanding their morphosyntactic intricacy, which challenges Greenberg’s Universal 28, the Lexical Integrity Hypothesis and the No Phrase Constraint, bu-nouns have been dealt with only sporadically and have at times even been overlooked. The presentation will shed light on the inflectional alternations inner bu-nouns exhibit, the existence of an alternative periphrastic expression, the pluralization pattern of these nouns, their alienable vs. inalienable possession patterns, as well as the possible recursion of the bu-noun affixes.

**INDEX**

**Mots-clés:** noms en bu-, pluriels en id-, morphologie, morphosyntaxe, tachelhite, amazighe

**Keywords:** bu-nouns, id-pluralization, morphology, morphosyntax, Tashlhit, Amazigh