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## The verbal *n*-stem in Taqbaylit Berber

Amazigh Bedar, Sabrina Bendjaballah, Martin Haiden

[amazigh.bedar@univ-nantes.fr](mailto:amazigh.bedar@univ-nantes.fr), [sabrina.bendjaballah@cnrs.fr](mailto:sabrina.bendjaballah@cnrs.fr), [martin.haiden@univ-nantes.fr](mailto:martin.haiden@univ-nantes.fr)

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The notion of templates owes a lot to the long tradition that studies Semitic verbal stems. One of those stems, known as the *nif'al* in Hebrew, is characterized by its *n*-prefix. Verbal forms prefixed with *n* are known for the entire Semitic family. Lieberman (1986:593) “call[s] the principal and original use of the various forms of the *n*-stem ‘actorless action’ ”. However, he immediately adds a wealth of references indicating a reciprocal use for “a short list of verbs” (p. 593) in Akkadian, a medio-passive value in Tiberian Hebrew (p.594), a “middle or reflexive” value in Arabic (p.594f). Still, “[t]he *n*-stem is used primarily when the speaker wishes *totally* to ignore the actual doer of the action, and means that the actor is irrelevant to his utterance, or at least not mentionable, and that the focus of attention is completely removed from the doer of the action.” (p. 596, italics in the original). This description fits well with what we want to call an anticausative marker.

Lieberman (1986) continues to observe that other “Afro-Asiatic languages, apparently even including Chadic, have stems which, like the Semitic stems, affix a nasal in order to form a verb which is comparable in meaning to the Semitic *n*-stem. In some of the languages, however, it takes the form /m/. Despite this variation in form, we will see that there are a number of reflexes of /n/, which seem consonant with a claim that the stem-afformative is related to the Afro-Asiatic *n* pronoun which we have reviewed, that /n/ is in fact widely attested in Afro-Asiatic, and will suggest that /m/ may well be secondary” (p.600), and he immediately mentions Berber as an example.

In this paper, we examine verbal *n*-forms in Taqbaylit Berber.<sup>1</sup> First, we introduce a semantics for anticausatives that can, occasionally, take on an apparently agentive, reflexive interpretation, Chierchia’s *reflexive closure*. We then argue, against certain claims in the literature, that verbal *n*- in modern Taqbaylit Berber is an independent morpheme, rather than a variant of reciprocal *m*-, derived by labial dissimilation. First, the alleged dissimilation rule is phonologically incorrect: we find instances of *n*- (the morpheme) in contexts where the alleged dissimilation rule should not apply, and we find instances of phonetic [m] in contexts where the alleged dissimilation rule should have applied. Second, the morpho-semantic values of *n*- and *m*- are clearly distinct: *m*- marks the reciprocal, *n*- derives anticausatives or reflexives, but the latter can never adopt a reciprocal reading. Once the independent identity of *n*- is established, we discuss its properties: certain allomorphies of the base are triggered by *n*- (but not *m*-); certain anomalies with respect to the apophonic marking of the preterite are triggered by *n*- (but not *m*-); while the length of prefixes is usually determined by the prosodic properties of the base, *n*- resists these regularities in certain contexts; while reciprocal *m*- precedes causative *s*-, reflexive/anticausative *n*- follows it; while the presence of derivational prefixes usually bleeds the insertion of penultimate *-i*- in the negative perfective, a subclass of *n*-verbs has *-i*- in this context; when causative *s*- precedes anticausative/reflexive *n*-, then both must be short, except in the class where *n*- cooccured with negative perfective *-i*-: in that class, *s*- geminates to *ss*- before *n*- to give *ssən*-, which in turn bleeds *-i*-.

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<sup>1</sup> The analysis is based on the variant of Taqbaylit Berber spoken in Chemini (45 kms southwest from Bejaïa, Algeria). One of the authors (AB) is a native speaker of the language. We will use the IPA symbols for the transcription of the examples, as well as the following abbreviations: aor = aorist stem, caus = causative, CS = construct state, dem = demonstrative, DAT = dative preposition, DO = direct object clitic, dir = directional particle, FS = free state, Fut = future particle, IO = indirect object clitic, part = participle, pret = preterite stem, int = intensive stem, poss = possessive, rec = reciprocal, m = masculine, f = feminine, s = singular, p = plural, s.o. = someone, sth = something.

All of this suggests that *n-* is attached to the base at a very low level, and that certain instances of *n-Verb* (the class that is compatible with *-i-*) should indeed be analyzed as complex roots. Correspondingly, we expect to find effects of lexicalization, and indeed we do: *n-*derivations are unproductive; for certain instances of *n-Verb*, the base verb does not exist, or it lacks the argument structure expected of a possible base; we observe semantic drift between the base and the derived forms, and we find selective idiomatization of base vs. derived forms.

Having established the properties of *n-*, we turn back to the hypothesis that it marks reflexive closure. Reflexive closure derives reflexivity by means of copying the direct object into the subject. Therefore, we do not expect to ever find reflexivized indirect objects with *n-*, and indeed we do not. Chierchia's implementation crucially depends on the transitive base allowing eventualities as subjects, which excludes core classes of agentive reflexives like grooming verbs. As a matter of fact, we do find a verb (*ʃʃəf* 'to take a shower/to soak/pour water over something') that both has a grooming interpretation, and combines with *n-*. However, the *n-*derived form excludes the grooming interpretation, retaining only the soaking one, in line with the predictions of reflexive closure. Finally, we examine the status of eventualities as subjects of the underived bases of *n-*verbs. Although initial observations are promising, the verification of this final prediction requires further research.

### 1. Semantics: decausativization and reflexive closure

In his seminal paper on the derivation of unaccusative predicates, Chierchia (1989/2004) proposes a semantic formalism to derive the denotation of unaccusatives in terms of (a certain conception of) reflexivization. He starts with an observation (which he attributes to Tanya Reinhart and others) according to which causative predicates that have unaccusative variants typically allow eventualities as subject arguments. Reinhart (2016) in fact claims that only those verbs that assign an underspecified cause role to its subject can have unaccusative counterparts. Underspecified cause roles can be realized by agents, instruments, or eventualities (1a = Reinhart 2016: p. 28, ex. 50b). Verbs whose subject must always be an agent (1b = Reinhart 2016: p. 28, ex. 52a) lack unaccusative counterparts.

- (1) a. Max/The storm/The stone broke the window.
- b. The baby/\*The spoon/\*Hunger ate the soup.
  
- (2) a. The window broke.
- b. \*The soup ate.

Chierchia (2004) takes the availability of an eventuality subject (*the storm* in 1a) as crucial in the derivation of unaccusativity. It is evident that, if a sentence like (1a) is to be truthfully affirmed, the causing eventuality in the subject must affect the object argument (the window in 1a) in a relevant sense. Chierchia formalizes this observation as  $\theta$ -sharing.  $\theta$ -sharing assures that an individual *x* of a causative predicate *K* that denotes a transition caused by eventuality *e*, and resulting in eventuality *e'*, must be assigned a thematic role in *e*.

- (3)  $\theta$ -sharing  
 For every eventuality *e*, *e'* and every individual *x*, if  $K(e, x, e')$  holds, then there is a thematic relation  $\theta$  such that  $\theta(e, x)$ . (Chierchia 2004: p. 56)

Chierchia immediately points out that " $\theta$ -sharing is a form of hidden reflexivization, in the sense that one individual plays a double role in two distinct events" (p. 56). The reflexivity is hidden, because

the individual plays multiple roles not in one single event, but in two distinct events. Statements of this sort are common to all theories that assume a decomposition of linguistic predicates into component sub-predicates (*cf.* Jackendoff 1983, and Levin & Rappaport Hovav 1995, 2005 for an overview). In a next step, Chierchia proposes to apply existential closure to the causing subject eventuality, thereby eliminating the external argument, and to put “a copy of the object argument into the first argument slot of the relation, thereby making it reflexive.” (Chierchia 2004: p. 56) He calls this operation reflexive closure [ $\lambda$ ].

(4) Reflexive closure (Chierchia 2004: p. 56)

a.  $K^r = \lambda x \lambda y \lambda e' \exists e \exists \theta [K(e, y, e') \wedge \theta(e, x) \wedge x = y]$

b.  $sink^r = \lambda x \lambda y \lambda e' \exists e \exists \theta [sink(e, y, e') \wedge \theta(e, x) \wedge x = y]$

Reflexively closed  $sink^r$  affirms that there is an eventuality involving  $x$  that brings about the sinking of  $x$ . Such an interpretation can be syntactically encoded in exactly two ways, according to Chierchia, an A-chain or reflexive morphology.

Chierchia’s proposal was subject to intense debates in the literature (*cf.* in particular Koontz-Garboden 2009, Horvath & Siloni 2011, 2013, Beavers & Koontz-Garboden 2013a,b, Lundquist et al. 2016, all of which focus on the question whether unaccusatives make reference to a causing sub-eventuality). In our view, two further questions are equally important.

Notice first that, in Chierchia’s original proposal, both A-chain formation (*i.e.*, raising) and reflexive morphology encode the semantics of reflexive closure. This explains why we find so many languages that use reflexive morphology to express unaccusative semantics (*i.e.*, reflexive closure). However, we would expect to find as many examples of languages, where unaccusative syntax (A-chain formation, possibly combined with anticausative morphology) is used to express the (pseudo)-reflexive semantics of reflexive closure. Such cases are much less prominent in the (recent, theoretical) literature.<sup>2</sup>

Furthermore, Chierchia’s proposal does not impose any constraint on the type of theta-role the undergoer argument is assigned in the causing eventuality.<sup>3</sup> He is in fact quite explicit about this, and proposes that “the (in)animacy of the subject [...] triggers an implicature as to whether the causing factor involves an action or a state” (p. 37-38). If this is so, then we should expect to find languages that yield agentive reflexive readings for animate subjects in constructions with unaccusative syntax (A-chain formation, possibly combined with anticausative morphology). The only constraint we expect to hold is that the transitive alternate of such reflexively read unaccusatives should allow eventualities as subjects. Although this constraint excludes many examples of prototypically reflexive predicates such as grooming verbs, Chierchia’s theory predicts that the pattern should exist for other verb classes.

<sup>2</sup> *Cf.* Levin & Rappaport Hovav 2005: p. 42, Haiden 2005: p. 241f on the reflexive semantics of certain uses of intransitive motion verbs.

<sup>3</sup> This is in contrast with Koontz-Garboden’s (2009) rendering of Chierchia’s theory. Koontz-Garboden (2009: p. 82) stipulates a role label EFFECTOR, borrowed from Van Valin & Wilkins (1996), for the shared  $\theta$ -role. Although this role is heavily underspecified, it would seem to exclude the kind of “stative” causality (p.37) that Chierchia originally talked about (*cf.* the discussion of state vs. activity perception verbs in Van Valin & Wilkins 1996: p. 310-311). It appears to us that EFFECTOR should rather be the role assigned to the causing eventuality (*i.e.*, the subject of the transitive alternate), not the individual that plays a role in it.

## 2. *n-* is not a variant of *m-*

It is often argued that *n-* should best be analyzed as a context-dependent variant of reciprocal *m-* (e.g. Bensoukas 2014, Boukous 2009, Elmedlaoui 2012, Idrissi 2001, Kossmann 2007, Lahrouchi 2003, 2018, Mourigh & Kossmann 2019 and Wilson 2020: 230, who writes: “We will therefore reconstruct the Proto-Berber or Pre-Proto-Berber N-Stem prefix as \*m̥-. The Berber N-Stem is likewise subject to a consistent, phonologically conditioned allomorphy whereby the initial \*m- of the prefix alternates with \*n- in verbal roots containing additional labial consonants.”) This analysis was established for Tashlhyit, Tamazight, Tarifit and Figuig Berber. In these languages, there is a general rule of labial dissimilation: /m/ surfaces as [n] when it attaches to a base that contains a labial consonant in any position, e.g. /m+sllm/ → nsallam ‘greet’. The prefixes *n-* and *m-* are thus in complementary distribution in these languages, depending on the segmental composition of the base they attach to.

As far as we know, there is no detailed analysis of *n-* in Taqbaylit Berber, except for a few remarks by some authors such as Chaker who writes “La forme (très rare) *n-* n'est qu'une variante phonétiquement conditionnée de *m-* (dissimilation devant radical verbal comportant une autre labiale : fk ‘donner’ + *m-* = *m-fk* > *n-fk*)”<sup>4</sup> Chaker (1995: p. 2297).

As mentioned by Elmedlaoui (2012: 145) without further arguments, while labial dissimilation might be the correct analysis for other Berber languages, it does not resist empirical scrutiny in the case of Taqbaylit Berber. We find two types of counterexamples to a supposed labial dissimilation rule: it fails to apply where its context is met, and it applies where its context is not met. (5) exemplifies the former case: *m* remains [m] to the left of labial root consonants, no matter what their position in the root is. (6) exemplifies the latter case: we find occurrences of *n* prefixed to bases without any labial in it.

### (5) *m* before labials (labial dissimilation fails to apply)

	<i>base-verb</i>	<i>gloss</i>	<i>m-verb</i>	<i>gloss</i>
a.	C1=[+lab]			
	βuxx	‘wet’	m-βuxx	‘wet each other’
	faɾəq	‘separate’	m-faɾəq	‘be separated from each other’
b.	C2=[+lab]			
	ʃaβi	‘look like’	m-ʃaβi	‘look like each other’
	ʃafeɿ	‘save’	m-ʃafaɿ	‘save each other’
	ʃəmməθ	‘disgrace’	m-ʃəmmaθ	‘disgrace each other’
c.	C3=[+lab]			
	zəɾɾəβ	‘test’	m-zəɾɾəβ	‘test each other’
	çaʃəf	‘guess’	m-çaʃəf	‘guess for each other’
	wəʃʃəm	‘tattoo’	m-wəʃʃəm	‘tattoo each other’

### (6) *n* without a labial trigger

	<i>base-verb</i>	<i>gloss</i>	<i>n-verb</i>	<i>gloss</i>
	sləx	‘strip’	nnə-slax	‘be/become stripped’
	ʃləx	‘spread’	nnə-ʃlax	‘be/become spread’
	zði	‘unite’	nnə-zði	‘be/become united’
	zəjzəw	‘be blue’	n-zəjzəw	‘become blue’
	huzz	‘shake’	n-həzz	‘be shaken’

<sup>4</sup> The (very rare) occurrences of *n-* are phonetically conditioned variants of *m-* (dissimilation before a verbal radical with a labial consonant: fk ‘give’ + *m-* = *m-fk* > *n-fk*). [translation by BBH]

ħiz                      ‘isolate’                      n-ħaz                      ‘be/become isolated’

We conclude from this distribution that, as far as Taqbaylit Berber is concerned, the verbal prefix *n-* cannot be derived from reciprocal *m-* by a rule of labial dissimilation akin to the one proposed in Chaker (1995).

### 3. Reciprocal *m-* vs anticausative/reflexive *n-*

The data in (5-6) do not exclude a derivation of *n-* from *m-* by a different rule. However, such a hypothesis would be at variance with the fact that *n-* does not inherit the reciprocal value of its supposedly underlying form *m-*. We find three classes of *n-*-derived verbs: some have an anticausative interpretation, others have a reflexive interpretation, and still others allow either an anticausative, or a reflexive interpretation, depending on the features of the subject. (7) illustrates the anticausative use of *n-*. (7a) gives the verbal base *həwwəl* ‘agitate/excite’ with a causative, transitive argument structure. (7b) gives the *n-*-derived verb with an anticausative, intransitive argument structure. Notice that an agent-oriented goal-denoting adverbial is ungrammatical in (7b): the subject is affected by an event it does not control.

- (7) a.    *i-həwwəl*                      *wərgaz-ənni*                      *θaqaɣəts*  
          3ms-agitate.pret                      CS.man-dem                      FS.hall  
          *akkn*                      *að*                      *ʃəðħ-ən*                      *məddən*  
          for                      Fut                      dance.aor-3mp                      people  
          ‘The man excited the hall so that people would dance.’
- b.    *jə-n-həwwəl*                      *wərgaz-ənni*  
          3ms-n-agitate.pret                      CS.man-dem  
          (\**akkn*                      *a-θn*                      *i-ssə-fɾəħ*)  
          for                      Fut-DO.3mp                      3ms-caus-be happy.aor  
          ‘The man is excited.’  
          \* ‘The man brings himself into a state of excitement in order to make them happy.’

(8) illustrates the reflexive use of *n-*. (8a) gives the verbal base *zβər* ‘bandage, repair’, again with a causative, transitive argument structure. (8b) gives its *n-*-derived variant. (8b) attributes both agency and affectedness to its subject. Goal-denoting adverbials are therefore grammatical.

- (8) a.    *jə-zβər*                      *wərgaz-ənni*                      *aqərɾuj-is*  
          3ms-bandage.pret                      CS.man-dem                      FS.head-poss.3s  
          ‘The man bandaged his head.’
- b.    *jə-nnə-zβər*                      *wərgaz-ənni*                      *akkn*                      *að*                      *jə-ħlu*  
          3ms-n-bandage.pret                      CS.man-dem                      for                      Fut                      3ms-heal.aor  
          ‘The man bandaged himself (a bodypart) to heal.’

Some *n-*-derived verbs appear both in the anticausative, and in the reflexive construction. *q|əβ* ‘throw/turn/knock over’ in (9) exemplifies this class. With inanimate, unintentional subjects as in (9b), the anticausative reading prevails. A reflexive interpretation is possible, if the subject is an intentional individual, as in (9c).

- (9) a.    θə-qləβ                    θəqfiθ-ənni                    θaçθuβt-is  
           3fs-turn.pret                CS.girl-dem                    FS.book-poss.3s  
           ‘The girl turned/knocked over her book.’
- b.    θə-nnə-qləβ                ddunit  
           3fs-n-turn.pret                CS.world  
           ‘The world is upside down.’
- c.    θə-nnə-qləβ                θəqfiθ-ənni                    akkn            a-d            θə-ṭṭəf  
           3fs-n-turn.pret                CS.girl-dem                    for            Fut-dir        3fs-catch.aor  
           jma-s                        wəqβəl                        aḏ                        jə-γli  
           brother-poss.3s                before                        Fut                        3ms-fall.aor  
           ‘The girl threw herself down in order to catch her brother before he would fall.’

Since reflexive readings exist for *nnə-ḡβar* in (8b) and for *nnə-qləβ* in (9c), we might expect that plural subjects make reciprocal interpretations available, too. A reciprocal interpretation would in turn support the analysis of *n-* as an allomorph of *m-*. However, the reciprocal readings of these verbs are systematically excluded (10a, b). The correspondings forms in (11) show that a reciprocal reading is not excluded on semantic grounds. It is possible, but it requires the prefix *m-*, not *n-*.

- (10) a.    nnə-ḡβar-ən                        jərgazən-ənni  
           n-bandage.pret-3mp                        CS.men-dem  
           ‘The men bandaged themselves (a bodypart).’  
           \* ‘The men bandaged each other.’
- b.    nnə-qləβ-ənt                        θəqfiθin-ənni  
           n-turn.pret-3fp                        CS.girls-dem  
           ‘The girls threw themselves down.’  
           \* ‘The girls fell over each other.’
- (11) a.    mjə-ḡβar-ən                        jərgazən-ənni  
           m-bandage.pret-3mp                        CS.men-dem  
           ‘The men bandaged each other.’
- b.    mjə-qləβ-ənt                        θəqfiθin-ənni  
           m-turn.pret-3fp                        CS.girls-dem  
           ‘The girls fell over each other.’

#### 4. Effects of *n-* on the base: root allomorphies and apophony

Having established the independent identity of *n-*, we now turn to its formal properties. Observe first that affixation of a verbal prefix may trigger morphological effects on the base in Taqbaylit Berber. However, these effects are not the same across prefixes: every prefix is associated with a particular pattern of base allomorphies.

Consider as an example the distribution of penultimate [a] in the verbal base in (12). In some verb classes, in particular the productive  $C_1C_2əC_3$  class, both *n-* and *m-* select the same base,  $C_1C_2aC_3$ . Penultimate [a] is a property that opposes *n-* and *m-* verbs to *s-* verbs (causatives) and  $t^s wa$ -verbs

(passives). In this respect *n*- and *m*- behave in a clearly parallel way. This parallelism is exemplified in (13a) for  $C_1C_2\bar{a}C_3$  bases and in (13b) for  $C_1\bar{a}C_2C_{2,3}\bar{a}C_{3,4}$  bases.

(12)	base verb	<i>n</i> -	<i>m</i> - (recip.)	<i>s</i> - (caus.)	<i>t<sup>s</sup>wa</i> - (pass.)
	$C_1C_2\bar{a}C_3$	$nn\bar{a}-C_1C_2\bar{a}C_3$	$mj\bar{a}-C_1C_2\bar{a}C_3$	$ss\bar{a}-C_1C_2\bar{a}C_3$	$t^s\bar{w}a-C_1C_2\bar{a}C_3$
		penultimate -a-		no penultimate -a-	

(13)	base verb	<i>n</i> -	<i>m</i> -	<i>s</i> -	<i>t<sup>s</sup>wa</i> -
a.	$jz\bar{a}m$ 'cut'	$nn\bar{a}-jz\bar{a}m$ 'cut oneself'	$mj\bar{a}-jz\bar{a}m$ 'cut each other'	$ss\bar{a}-jz\bar{a}m$ 'make s.o. cut sth'	$t^s\bar{w}a-jz\bar{a}m$ 'be cut'
b.	$z\bar{a}jz\bar{a}w$ 'be/make blue'	$n-z\bar{a}jz\bar{a}w$ 'become blue'	$m-z\bar{a}jz\bar{a}w$ 'make each other blue'	-	$t^s\bar{w}a-z\bar{a}jz\bar{a}w$ 'be blued'
	$f\bar{a}r\bar{f}\bar{a}r$ 'fly away'	-	-	$s-f\bar{a}r\bar{f}\bar{a}r$ 'make fly'	

However the parallelism between *n*- and *m*- breaks down if the prefix is attached to bases with a different phonological shape, e.g. CCV, CVCC, or VC $\bar{a}$ C, as illustrated in (14):

(14)	base	<i>n</i> -	<i>m</i> -	<i>s</i> -	<i>t<sup>s</sup>wa</i> -
	$rnu$ 'add'	$nn\bar{a}-rni$ 'grow'	$mj\bar{a}-rnu$ 'add each other'	-	$t^s\bar{w}a-rnu$ 'be added'
	$\bar{q}u\bar{r}\bar{r}$ 'harm'	$n-t\bar{a}\bar{r}\bar{r}$ 'suffer'	$m-\bar{q}u\bar{r}\bar{r}$ 'harm each other'	-	$t^s\bar{w}a-\bar{q}u\bar{r}\bar{r}$ 'be harmed'
	$huzz$ 'shake'	$n-h\bar{a}zz$ 'shake oneself'	$m-huzz$ 'shake each other'	$s-huzz, s-h\bar{a}zz$ 'make shake'	$t^s\bar{w}a-huzz$ 'be shaken'
	$af\bar{a}j$ 'fly'	$n-fuf\bar{a}j$ 'be propagated'	-	$ss-if\bar{a}j$ 'make fly'	-
	$a\bar{d}\bar{a}r$ 'go down'	$n-dud\bar{a}r$ 'be down'	$mj-a\bar{d}\bar{a}r$ 'go down to each other'		

Furthermore, we observe differences between *n*- and *m*- on the apophonic marking of the perfective. Basic verbs show an alternation of their stem-vowel between the aorist and the perfective, which follows the Apophonic Path (zero  $\rightarrow$  i  $\rightarrow$  a  $\rightarrow$  u, cf. Guerssel & Lowenstamm 1996, Bendjaballah 2001). In particular, [a] in the aorist alternates with [u] in the perfective, as exemplified in (15a). By contrast, penultimate [a] in *n*-verbs and in *m*-verbs remains stable across aspectual categories (15b). It is once more tempting to infer that *n*- and *m*- share a common property: they bleed apophonic marking of the perfective. Yet again, this observation cannot be maintained across all verb classes. Except for the classes that select a template with penultimate -a-, it turns out that *m*-verbs are apophonic, on a par with *s*-causatives (15c), while the situation in *n*-verbs is less regular. *n*-derived verbs can be divided into 3 groups (15d): some are apophonic in the sense of the Apophonic Path; others are apophonic with a different pattern; finally, in a third group, the vowel remains stable. To conclude, *m*-verbs seem to behave in a regular way w.r.t. apophony, while *n*-verbs exhibit a less regular, unpredictable behaviour.

(15)		<i>aor.</i>	<i>pret.</i>	<i>gloss</i>
	a. base: +apophonic (AP)	faθ	fuθ	'miss'
	b. <i>n</i> -: -apophonic	nnə-qlaβ	nnə-qlaβ, *nnə-qluβ	'turn oneself'
	<i>m</i> -: -apophonic	mjə-qlaβ	mjə-qlaβ, *mjə-qluβ	'fall over each other'
	c. <i>m</i> -: +apophonic (AP)	m-laŋi	m-luŋa	'reconcile'
	<i>s</i> -: +apophonic (AP)	ss-ali	ss-uli	'make rise'
	d. <i>n</i> -: +apophonic (AP)	nnə-ʒli	nnə-ʒla	'go into exile'
	<i>n</i> -: +apophonic (*AP)	nnə-βru	nnə-βra	'divorce'
	<i>n</i> -: -apophonic	n-ðaŋ	n-ðaŋ	'get lost'

To conclude, *n*- has a specific morphophonological behaviour w.r.t. the base it attaches to, which differs from that of other prefixes, in particular *m*-.

### 5. Anomalies with respect to the length of *n*-

Turn now to allomorphies affecting the prefixes itself. At first sight, *n*- shares various morphophonological properties with *m*-. (16) shows that both *n*- and *m*- surface as long (i.e. occupy two consonantal slots, as [nnə-] and [mjə-] respectively) before a CC cluster, while they surface as short (i.e. occupy one consonantal slot, as [n-] and [m-] respectively) before CV. However the parallelism does not extend to the context VC: when prefixed to a VC<sub>1</sub>əC<sub>2</sub> base, the resulting *n*-verb displays a propagation of C<sub>1</sub> while *m*-verbs present their normal 'long' allomorph. This contrast is illustrated in (17).

(16)		/_C <sub>1</sub> C <sub>2</sub>	/_C <sub>1</sub> V	/_VC <sub>1</sub>
	a. /n-/	[nnə]	[n]	[nC <sub>1</sub> ]
	b. /m-/	[mjə]	[m]	[mj]
	c. /s-/	[ssə]	[s]	[ss]

(17)	VC <sub>1</sub> əC <sub>2</sub> -base									
	a.		<table border="1" style="border-style: dotted; border-collapse: collapse; text-align: center;"> <tr> <td>long prefix</td> <td>short prefix</td> </tr> <tr> <td>OK</td> <td>*</td> </tr> <tr> <td>*</td> <td>OK</td> </tr> </table>	long prefix	short prefix	OK	*	*	OK	
long prefix	short prefix									
OK	*									
*	OK									
	b.	base	derived							
			long	short						
	/m-/	açər 'rob'	mj-açər	*m-çuçər, *m-çaçər 'rob each other'						
	/n-/	afəj 'fly'	*nn-afəj, *nn-ufəj	n-fufəj 'be propagated'						

In addition, *n*- and *m*- interact with the intensive prefix /t<sup>s</sup>-/ in a different way: for CC-initial bases, where the long version of the prefix is selected ([nnə-] and [mjə-] respectively, cf. (16) above), prefixation of intensive /t<sup>s</sup>-/ triggers degemination of [nnə-]; by contrast, *m*- surfaces as long ([mjə-]) in this context. Once more we must conclude that the prefix *n*- has its own set of formal properties, distinct from the properties of other verbal prefixes.

(18)	base: qləβ ‘turn’			
	prefix	aorist	intensive	
	<i>n-</i>	nnə-qlaβ	t <sup>s</sup> -nə-qlaβ	‘turn oneself’
	<i>m-</i>	mjə-qlaβ	tt <sup>s</sup> ə-mjə-qlaβ	‘turn each other’
	base: βru ‘divorce’			
	prefix	aorist	intensive	
	<i>n-</i>	nnə-βru	t <sup>s</sup> -nə-βraj	‘release oneself’
	<i>m-</i>	mjə-βru	tt <sup>s</sup> ə-mjə-βraj	‘release each other’

## 6. The position of *n-* in the verbal template

*n-* and *m-* surface in different positions. As illustrated in (19), in Taqbaylit Berber, *m-* must precede causative *s-*, while *n-* must follow *s-* (20).<sup>5</sup>

(19)	<i>m-s-</i>			
	base	<i>s-</i>	<i>m-s-</i>	* <i>s-m-</i>
	xðəm	ssə-xðəm	m-sə-xðəm	*s-mjə-xðəm
	‘work’	‘make work’	‘make each other work’	
	rwəl	ssə-rwəl	m-sə-rwal	*s-mjə-rwal
	‘flee’	‘make flee’	‘make each other flee’	
	nzəf	ssə-nzəf	m-sə-nzaf	*s-mjə-nzaf
	‘be depleted’	‘make depleted’	‘make each other depleted’	
	xləf	ssə-xləf	m-sə-xlaf	*s-mjə-xlaf
	‘be fearful’	‘make fearful’	‘make each other fearful’	
	ali	ss-ali	m-s-ali	*s-mj-ali
	‘ascend’	‘make ascend’	‘make each other ascend’	
(20)	<i>s-n-</i>			
	base	<i>n-</i>	* <i>n-s-</i>	<i>s-n-</i>
	qləβ	nnə-qlaβ	*n-sə-qlaβ	s-nə-qlaβ

<sup>5</sup> Naït-Zerrad (1994) provides a list of 61 *ssəm*-initial verbs, which seems to contradict our claim. However, such is not the case. First, it turns out that 30 of these verbs are not used in Chemini (e.g. \**ssəmbibb* ‘make carry each other on the back’). Second, in 25 of them, *m-* is not the reciprocal prefix, but the initial consonant of the root (e.g. *ssəmyi* ‘make grow’ < *myi* ‘grow’). Third, in 5 of them, the verb has *n-* instead of *m-* in Chemini (e.g. \**ssə-m-gugel*, *ssə-n-gugəl* ‘make move, shake’). Finally, we are left with a single case where *m-* occurs to the right of *s-*, *ssə-m-laḡi* ‘reconcile’, which is not uniformly accepted among Chemini Berber speakers. We conclude that this derivation is not available in the variety of Taqbaylit Berber spoken in Chemini. In order to express the causative of a reciprocal verb, a periphrastic construction with the verb *ərr* ‘make’ must be used in combination with the reciprocal (*m*-derived) stem, e.g.

jə-rra	θiqjifin-ənni	mjə-ħmal-ənt
3ms-make.pret	CS.girls-dem	rec-love.pret-3fp

‘He made the girls fall in love for each other.’

Note that Chemini Berber does have some *sm*-verbs, e.g. *sməfɔdɔz* ‘behave in a lazy way’ (< *ɔdɔz* ‘be lazy’) but the verbs of this type are not derived from *m*-verbs: they do not denote the causative of a reciprocal, and do not have the morphology of reciprocal bases with penultimate -a-.

‘spill’	‘turn oneself’		‘push to turn oneself’
ʒlu	nnə-ʒli	*n-sə-ʒlu	s-nə-ʒlu
‘disappear’	‘self-exile’		‘push to exile’
rnu	nnə-rni	*n-sə-rni	s-nə-rni
‘add’	‘grow up’		‘make grow’
zluləf	nnə-zluləf	*n-sə-zluləf	s-nə-zluləf
‘be burnt’	‘become burnt’		‘cause to be burnt’

The linear order of morphemes in (19-20) is coherent with the semantic compositionality of the resulting verbal forms. (19) exemplifies the reciprocal of the causative, (20) exemplifies the causative of the reflexive. In all cases, the inner affix must be computed with the base before the outer affix is attached, with *n-* as the lowest prefix, attached directly to the verbal root. We now turn to independent evidence showing that the prefix *n-* closely interacts with the root.

## 7. *n-* as a root-prefix

### 7.1. Instability of the lexical vowel

Recall from section 4 that prefixation may trigger allomorphies affecting the base. A close examination of the data reveals that, for the verb classes that do not have penultimate [a], *n-* may trigger root allomorphies, while *m-* never does. (21) provides a sample of *n-* and *m-* verbs derived from CCV, CVCC and CVC(C) verbal bases, and illustrates the stability of the lexical vowel in *m-* verbs vs its instability in *n-* verbs.

(21)	base verb	<i>n-</i>	<i>m-</i>
	rnu	nnə-rni	mjə-rnu
	‘add’	‘grow’	‘add one for the other’
	huzz	n-həzz	m-huzz
	‘shake’	‘be shaken’	‘shake each other’
	ħiz	n-ħaz	m-ħiz
	‘put aside’	‘be put aside’	‘put each other aside’
	ḏuʀʀ	n-təʀʀ	m-ḏuʀʀ
	‘harm’	‘feel bad’	‘hurt each other’

### 7.2. nC<sub>1</sub>əC<sub>2</sub> verbs

All nC<sub>2</sub>əC<sub>3</sub> verbs in our corpus for which there is a (verbal or nominal) base without *n* behave as if they were basic C<sub>1</sub>C<sub>2</sub>əC<sub>3</sub> verbs (Bedar 2022), i.e., prefixal *n-* behaves as if it were the first root consonant of the verb. The list of these verbs is provided in (22) below. In (22a) we give the n-C<sub>2</sub>əC<sub>3</sub> verbs with a verbal base (C<sub>i</sub>C<sub>i</sub>əC<sub>j</sub> or C<sub>i</sub>C<sub>j</sub>V); in (22b), we give the n-C<sub>2</sub>əC<sub>3</sub> verbs with a nominal base; (22c) provides additional nC<sub>2</sub>əC<sub>3</sub> verbs, for which the derivational relationship with the putative base is difficult to ascertain. Note in (22a) that the *n-* verbs do not display the initial gemination attested in the base, and that they do not maintain the vocalisation of the base (cf. Sections 4-5 above). The *n-* verb always has the shape of the productive class of basic verbs, C<sub>1</sub>C<sub>2</sub>əC<sub>3</sub>.

(22)	<i>n-</i>	gloss	base	gloss	
	a.	<i>n-fəl</i>	'be overflowed'	<i>ffəl</i>	'overflow'
		<i>n-fəf</i>	'be cleaned (floor)'	<i>ʃfəf</i>	'shower'
		<i>n-ɣəl</i>	'be knocked down'	<i>ɣli</i>	'fall'
		<i>n-xəl</i>	'be empty'	<i>xlu</i>	'empty, desert'
	b.	<i>n-ɣəð</i>	'be reduced to ashes'	<i>iɣəð</i>	'ash'
		<i>n-təl</i>	'be sheltered, be in the shade'	<i>θili</i>	'shade'
		<i>n-fəw</i>	'be plucked, be depilated'	<i>faw</i>	'hair'
		<i>n-fəl</i>	'be stripped, deprived of its skin'	<i>aflim</i>	'peel of a fruit/vegetable'
	c.	<i>n-zər</i>	'be at the bottom'	<i>zzər</i>	'sink'
		<i>n-fəɾ</i>	'be fat'	<i>fəɾ</i>	'be fat'
		<i>n-kəβ</i>	'lose weight, be injured (animal)'	<i>akfəβ</i>	'fox' (refers to sth/so. skinny)
		<i>n-sər</i>	'come loose, slacken'	<i>isir</i>	'piece of wood detached from a tree or a board'
		<i>n-xər</i>	'be hollow, disappear in a hole'	<i>laxərθ</i>	'abyss'

A first argument for analyzing initial *n* in the derived verbs in (22) as a root segment comes from the availability of a specific stem in the negative preterite of the *n*-verb. Basic  $C_1C_2əC_3$  verbs always have two distinct stems in the perfective: the preterite stem, and the negative preterite stem. As illustrated in (23a), the negative preterite stem is characterized by penultimate [i]. Derived verbs do not have a specific stem for the negative preterite: *s-*, *m-*, *t<sup>s</sup>wa-*verbs have a single perfective stem (23b), cf. Bendjaballah (2007, 2014). In this respect, *n-* behaves on a par with the other derivational prefixes: *n*-derived verbs with schwa do not have a specific negative stem with [i] in the perfective.

(23)				<i>pret.</i>	<i>neg. pret.</i>	
	a.	basic verb	<i>xðəm</i>	'do, work'	<i>xðəm</i>	<i>xðim</i>
	b.	derived verb	<i>ssə-xðəm</i>	'make work'		<i>ssə-xðəm</i>
			<i>nnə-zluləf</i>	'become burnt'		<i>nnə-zluləf</i>
			<i>n-fufəj</i>	'be propagated'		<i>n-fufəj</i>

As shown in (24),  $n-C_2əC_3$  verbs behave on a par with  $C_1C_2əC_3$  basic verbs: they do have a specific stem for the negative preterite, which is characterized by penultimate [i]. We take this fact to indicate that, in these verbs, prefixal *n-* has been lexicalized as a root consonant.

(24)				<i>pret.</i>	<i>neg. pret.</i>
		<i>nɣəl</i>	'be overturned'	<i>nɣəl</i>	<i>nɣil</i>
		<i>nfəl</i>	'be overflowed'	<i>nfəl</i>	<i>nfil</i>
		<i>nxəl</i>	'be empty'	<i>nxəl</i>	<i>nxil</i>
		<i>nʃəf</i>	'be washed'	<i>nʃəf</i>	<i>nʃif</i>
		<i>nɣəð</i>	'be reduced to ashes'	<i>nɣəð</i>	<i>nɣið</i>
		<i>ntəl</i>	'be sheltered, be in the shade'	<i>ntəl</i>	<i>ntil</i>
		<i>nʃəw</i>	'be plucked, be depilated'	<i>nʃəw</i>	<i>nʃiw</i>

nʃəl	‘be stripped, deprived of its skin’	nʃəl	nʃil
nzər	‘be at the bottom’	nzər	nzir
nfər	‘be fat’	nfər	nfir
nkəβ	‘lose weight, be injured (animal)’	nkəβ	nkiβ
nsər	‘come loose, slacken’	nsər	nsir
nxər	‘be hollow, disappear in a hole’	nxər	nxir

The behaviour of  $nC_2\text{ə}C_3$  verbs in combination with causative  $s-$  confirms this conclusion. As mentioned above in section 6, in the causatives of  $n$ -verbs, both prefixes appear as single consonants (25a). By contrast, when causative  $s-$  is prefixed to a basic  $C_1C_2\text{ə}C_3$  verb, it surfaces as a geminate consonant (25b). When causative  $s-$  is prefixed to a  $nC_2\text{ə}C_3$  verb, it surfaces as a geminate (25c), thus behaves as in (25b), not (25a).

(25)	a.	qləβ	‘turn’				
		nnə-qlaβ	‘throw oneself’	s-nə-qlaβ		‘make throw oneself’	
	b.	xðəm	‘do, work’	ssə-xðəm		‘make work’	
	c.	ɣli	‘fall’				
		n-ɣəl	‘be turned over’	ssə-nɣəl, *s-nə-ɣal		‘make turn over’	

### 7.3. $n-C_1uC_1\text{ə}C_2$ verbs

As noted above in section 5,  $n$ - patterns in an idiosyncratic way with respect to  $VC_1\text{ə}C_2$  verbal bases: it triggers the propagation of  $C_1$  (26a), instead of the realization of the long allomorph [nn-]. As a result, the  $n$ -derived verb surfaces as  $nC_2uC_2\text{ə}C_3$ . This template corresponds to the pattern of a class of basic verbs, exemplified in (26b). Note that the  $n$ -derived verb in (26a) patterns on a par with the basic verb in (26b) in all relevant respects, e.g. causative derivation.

(26)	a.	<i>base</i> .aor.	<i>n</i> -aor.	<i>n</i> -pret. (pos. = neg.)	<i>s-n</i> -aor.
		afəj ‘fly’	n-fufəj	n-fufəj ‘be propagated’	ssə-n-fufəj
		<i>base</i> .aor.	aor.	pret. (pos. = neg.)	<i>s</i> -aor.
	b.	çməs ‘clasp’	çmuməs	çmuməs ‘be clasped’	ssə-çmuməs

This behaviour becomes coherent under the assumption that  $n$ -derivation is a lexical derivation. Additional support for this analysis comes from a phonological alternation observed in  $nC_1uC_1\text{ə}C_2$  verbs. In Chemini Berber, spirants obey the following rule (Bedar, Quellec, Tifrit 2022): /β, ð, θ, ʃ, ç/ → [b, d, t, g, k] / n \_\_. This rule applies at the root-level: no [n{β, ð, θ, ʃ, ç}] sequence is attested in a root. (27) provides the exhaustive list of  $n$ -verbs derived from an attested base with  $R_1=[+\text{fricative}]$ . The pattern of occlusivisation in class A and B is not clear, with the same number of examples with and without occlusivisation. The verbs in C and D exhibit occlusivisation. As argued in sections 7.2 and 7.3,  $n$ - has been reanalyzed as a root consonant in these groups, and occlusivisation takes place, as expected. Admittedly the number of examples in (27) is small, but we take this behaviour, together with our previous observations in this section, to suggest that these instances of  $n$ - should be considered as root-affixes.

(27)	occlusivisation		no occlusivisation	
	base	<i>n</i> -verb	base	<i>n</i> -verb
A.	ḡurṛ	n-ṛṛ	ḡaṛ, ḡiṛ	n-ḡaṛ *n-ṛaṛ
	ḡull	n-dəll	ḡaq, ḡiq	n-ḡaq *n-ṛaq
B.	ḡəqqəf	n-dəqqəf	βəddəl	n-βəddal *n-bəddal
C.	aḡər	ndudər		
D.	ḡaṛ	nṛuṛəṛ		
	ḡili	ntəl		

## 8. Lexicalisation effects

Analysing *n*- as a root-affix leads us to expect effects of lexicalisation, and indeed we find such effects.

### 8.1. Lack of productivity

In contrast to fully productive causative *s*- and reciprocal *m*-, *n*- can only be affixed to a limited set of verbal bases. Chaker calls them “très rare”, cf. Section 2 above. For the Taqbaylit Berber variety spoken in Chemini, the corpus in Bedar (2022) contains 170 *n*-verbs. Productive formation is impossible: all *n*-verbs are in the lexicon. In this corpus, 132 *n*-verbs (= 77.64%) have an attested verbal base (intransitive, transitive or labile), 28 *n*-verbs (= 16.47%) have no attested base, and 10 have a nominal base (= 5.89%).

(28)	base	#	%
	intransitive verb	56	32.94
	transitive verb	36	21.17
	‘labile’ verb	40	23.53
	noun	10	5.89
	no attested base	28	16.47
		170	100

In addition to the restricted number of *n*-verbs, the linguistic community does not ‘produce’ new *n*-verbs. This is in striking contrast with *m*-verbs (reciprocals) and *s*-verbs (causatives) which are very productive. We will illustrate our hypothesis with examples of verbs ‘invented’ by Taqbaylit speakers who live in France. (29) and (30) give a sample of ‘new’ *m*- and *s*- verbs respectively.

(29)		<i>m</i> -	
	rapli	‘call back’ (rappeler)	m-rapli ‘call back each other’
	sipari	‘separate’ (séparer)	m-sipari ‘separate from each other’
	divursi	‘be divorced’ (être divorcé)	m-divursi ‘be divorced from each other’
	kunikti	‘connect’ (connecter)	m-kunikti ‘connect to each other’

(30)		<i>s</i> -	
	fabli	‘be weak’ (faiblir)	s-fabli ‘weaken’
	lafi	‘break down’ (lâcher)	s-lafi ‘break’
	puri	‘be rotten’ (être pourri)	s-puri ‘cause to be rotten’
	bluki	‘be blocked’ (être bloqué)	ssə-bluki ‘cause to be blocked’



- (34) a.  $\theta$ - $\text{hukk}$                        $\theta\text{a}q\text{fij}\theta$ - $\text{anni}$                        $\text{as}\text{erwal}$ - $\text{is}$   
 3fs-rub.pret                      CS.girl-dem                      FS.trousers-poss.3s  
 ‘The girl rubbed her trousers (she washed them).’
- b.  $\theta$ - $\text{hukk}$ - $\text{as}$                        $\theta\text{a}q\text{fij}\theta$ - $\text{anni}$                        $i$                        $\theta\text{am}\text{dak}\text{alt}$ - $\text{is}$   
 3fs-rub.pret-IO:3s                      CS.girl-dem                      DAT                      CS.friend-poss.3s  
 ‘The girl rubbed her friend (= her body).’
- c. \* $\theta$ - $\text{hukk}$                        $\theta\text{a}q\text{fij}\theta$ - $\text{anni}$                        $\theta\text{am}\text{dak}\text{alt}$ - $\text{is}$   
 3fs-rub.pret                      CS.girl-dem                      FS.friend-poss.3s  
 ‘The girl offended her friend.’
- d.  $\theta\text{a}$ - $n$ - $\text{h}\text{akk}$                        $\theta\text{a}q\text{fij}\theta$ - $\text{anni}$   
 3fs-n-rub.pret                      CS.girl-dem  
 ‘The girl was upset/offended.’
- (35) a.  $\text{j}\text{a}$ - $\text{zmi}$                        $\text{w}\text{a}rg\text{az}$ - $\text{anni}$                        $\theta\text{at}\widehat{\text{jinats}}$   
 3ms-squeeze.pret                      CS.man-dem                      FS.orange  
 ‘The man squeezed an orange.’
- b. \* $\text{j}\text{a}$ - $\text{zmi}$                        $\text{w}\text{am}\text{f}\text{all}\text{am}$ - $\text{anni}$                        $\text{ix}\text{addam}\text{n}$ - $\text{is}$   
 3ms-squeeze.pret                      CS.boss-dem                      FS.employees-poss.3s  
 ‘The boss put pressure on his employees.’
- c.  $\text{j}\text{a}$ - $\text{nn}\text{a}$ - $\text{zmi}$                        $\text{w}\text{a}rg\text{az}$ - $\text{anni}$   
 3ms-n-squeeze.pret                      CS.man-dem  
 ‘The man is under pressure/put pressure on himself.’

#### 8.4. Idioms

Idiomatic constructions can separately involve the base vs the derived form. We find both *n*-verbs with an idiomatic reading inexistent for the base (36), and *n*-verbs that lack an idiomatic reading we find for the base (37, 38).

- (36) a. *n*-verb  
 $\text{j}\text{a}$ - $\text{nn}\text{a}$ - $\text{qla}\beta$                        $\text{wu}\check{\text{d}}\text{m}$ - $\text{is}$   
 3ms-n-turn.pret                      CS.face-poss.3s  
 ‘He disagreed on the point.’ ‘He became unhappy.’  
 ‘His face turned upside down.’ (lit.)
- b. base verb  
 $\text{j}\text{a}$ - $\text{qla}\beta$                        $\text{u}\check{\text{d}}\text{m}$ - $\text{is}$   
 3ms-turn.pret                      FS.face-poss.3s  
 ‘He turned his face.’  
 \*‘He became unhappy.’



to reflexive closure. However, we do expect to observe tendencies compatible with, rather than opposed to our expectations.

Reflexive closure targets the internal argument of a predicate, and copies it into the subject position. As pointed out at various places in Tanya Reinhart's and Tal Siloni's work (e.g., Reinhart & Siloni 2005) such a formalism cannot derive reflexive readings for indirect objects. An indirect object is predicted not to have a reflexive reading, unless it is realized as a bound anaphor. This prediction receives initial confirmation from data like (39).

- (39) a.     $j\grave{a}$ - $z\acute{m}\acute{a}\grave{c}$                        $w\acute{a}rgaz$ - $\acute{a}nni$                        $i\ddot{d}rim\acute{a}n$                        $i$                        $j\grave{m}a$ - $s$   
           3ms-keep.pret                      CS.man-dem                      FS.money                      DAT                      brother-poss.3s  
           'The man kept some money for his brother.'
- b.     $*j\grave{a}$ - $nn\acute{a}$ - $z\acute{m}\acute{a}\grave{c}$                        $w\acute{a}rgaz$ - $\acute{a}nni$                        $i\ddot{d}rim\acute{a}n$   
           3ms-n-keep.pret                      CS.man-dem                      FS.money  
           Intended: 'The man kept money for himself.'

However, certain verbs selecting a dative in their base form appear to present counterexamples, among them *βru* 'release' discussed in (37, 38) above, *ffal* 'overflow', and *sarrāh* 'release'.

Compare first the base verb *βru* in (37b) with its derived counterpart *nnā-βru* in (38b). The dative object of the underived verb is absent in the derived form. Consider now the respective readings. With the base verb, the subject is interpreted as the agent of the separation and, at least in certain contexts, its theme. The dative denotes a constraint to be abolished (compare English *let go off*). With the derived verb, the subject remains the one who lets go, and it is likewise the liberated object. However, it cannot be interpreted as the abolished constraint (i.e., the dative of the base). Therefore, the absence of a dative with *nnā-βru* cannot be imputed to a rogue application of reflexive closure affecting the dative.

Consider now *ffal* 'overflow'. (40a, b) exemplify the base verb with its dative argument. In the underived structure, the subject may (40a), or may not (40b) initiate the denoted event, but it is always affected by it. The dative indicates a boundary transgressed by the subject.

- (40) a.     $j\grave{a}$ - $ff\acute{a}l$                                        $w\acute{a}rgaz$ - $\acute{a}nni$                                        $i$                        $w\acute{a}\ddot{d}rar$   
           3ms-overflow.pret                                      CS.man-dem                                      DAT                      CS.mountain  
           'The man crossed the mountain.'
- b.     $ffl$ - $\acute{a}n$                                        $waman$ - $\acute{a}nni$                                        $i$                        $\theta\acute{a}rga$   
           overflow.pret-3mp                                      CS.water-dem                                      DAT                      CS.canal  
           'The water overflowed the canal.'

The derived form *n-fal* loses the causing event participant (41a). Its subject is either an uncontrolled substance (41b), or a violated barrier (41c). This reading is compatible with an underspecified internal argument role, rather than reflexive closure over a dative. If reflexive closure had selectively targeted the dative, then only (41c) with the violated barrier subject should be acceptable; (41b) with the uncontrolled substance subject should be ungrammatical.

- (41) a.     $*j\grave{a}$ - $n$ - $f\acute{a}l$                                        $w\acute{a}rgaz$ - $\acute{a}nni$                                       ( $i$                        $w\acute{a}\ddot{d}rar$ )  
           3ms-n-overflow.pret                                      CS.man-dem                                      DAT                      CS.mountain  
           Intended: 'The man crossed the mountain.'

- b. nə-fl-ən                      waman-ənni  
n-overflow.pret-3mp        CS.water-dem  
‘The water overflowed.’
- c. jə-n-fəl                      uβəljun-ənni  
3ms-n-overflow.pret        CS.can-dem  
‘The can overflowed.’

## 10. Final words

Chierchia’s implementation of reflexive closure crucially depends on the transitive base allowing eventualities as subjects. The argument structure of the eventuality in the subject provides the role to be shared with the object role. In this way, Chierchia derives the typical self-responsible affected object reading that characterizes the construction. If a base verb selects an individual as a subject, then reflexive closure cannot apply.<sup>6</sup>

A test case that immediately comes to mind is the class of body-grooming verbs. The verbs in this class are truly agentive, and they strongly tend to be used in reflexive situations. So if the Taqbaylit *n*-prefix expresses reflexive closure, then we should not find body-grooming verbs as its base. Those verbs should form their reflexive in a different manner, which seems indeed to be the case. To give just one example, the verb *şəttəl* ‘shave, cut hair’ has a morphologically unmarked, lexical reflexive alternant, comparable to English *shave* (42b). The affixation of *n* (42c) is ungrammatical on any attempted reading.

- (42) a. i-şəttəl-as                      uħəffaf-ənni                      i                      wərgaz-ənni  
3ms-shave.pret-IO.3s        CS.barber-dem                      DAT        CS.man-dem  
‘The barber shaved the man.’
- b. i-şəttəl                      wərgaz-ənni  
3ms-shave.pret                      CS.man-dem  
‘The man shaved.’
- c. \*jə-n-şəttəl                      wərgaz-ənni  
3ms-n-shave.pret                      CS.man-dem  
Intended: ‘The man shaved/got shaved/lost his beard.’

However, there does seem to exist a counterexample to the prediction: *jjəf* ‘to take a shower/to soak/pour water over something’ both has a grooming interpretation (43a), and combines with *n* (44). However, the *n*-derived forms in (44) excludes the grooming interpretation, retaining only the soaking one, in line with the predictions of reflexive closure.

- (43) a. i-jjəf                      wərgaz-ənni  
3ms-shower.pret                      CS.man-dem  
‘The man took a shower.’

<sup>6</sup> Such predicates are subject to true reflexivization, formalized in Chierchia’s paper as the “[identification of] the two arguments of a relation, thereby reducing it to a property.” (Chierchia 1989/2004, p.29).



words,  $\theta aqjif\theta$  (the girl) in (45a) stands proxy for *an eventuality involving the girl*. This is exactly the type of subject required as input to reflexive closure.

Similar observations apply to (45b). This sentence does not seem to affirm that the wind was (the cause and content of) the girl's embarrassment. It rather affirms that the wind performed some further, unnamed action (like lifting her skirt), which in turn caused the embarrassment. This further action can, but does not need to be named in a relative clause, as in (47).

(47)	i-ħəjjəm	θaqjifθ-ənni	uβəħri-nni	i-s
	3ms-dishonor.pret	FS.girl-dem	CS.wind-dem	Comp-IO.3s
	jə-ss-uli-n		θaqənduθ-is	
	part-caus-go.up.pret-part		FS.dress-poss.3s	
	'The wind that lifted her skirt put the girl to shame'			
	'The wind that lifted her skirt dishonored the girl'			

A definitive conclusion about the validity of our analysis will depend on a careful study of the semantics of all verbs in the *n*-class, to be accomplished in future work.

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