DOI: 10.5281/zenodo.14512107

LEXICALIZATION IN MORPHOLOGY: A CASE STUDY OF THE ANTICAUSATIVE PREFIX IN TAQBAYLIT BERBER[1]

Abstract: *What makes lexicalization an intriguing topic in morphology? It is not so much the semantic mismatch between a base and its 'derived' form, but the question of how lexicalization is underlyingly represented. This paper explores this question with a case study of the anticausative morpheme in Taqbaylit Berber. Although this prefix, namely /n-/, has the status of a derivational morpheme, it is lexicalized in a series of verbs. A morphophonological analysis will be provided, certain points on the argument structure of this series of verbs will be discussed, and it will be shown that this former morpheme is no longer realized as a prefix but incorporated into the root and became the first root consonant. Specifically, it will be argued that this prefix has lost its morphemic status and therefore is devoid of any functional or categorial information.*

Keywords*: lexicalization, derivation, anticausative, reflexive, Taqbaylit Berber*

LEXICALISATION EN MORPHOLOGIE : UNE ÉTUDE DE CAS DU PRÉFIXE ANTICAUSATIF EN BERBÈRE TAQBAYLIT

Résumé : *Qu'est-ce qui rend la lexicalisation un sujet intrigant en morphologie ? Ce n'est pas tant le décalage sémantique entre une base et sa forme 'dérivée', mais plutôt la question de la manière dont la lexicalisation est représentée sous-jacemment. Cet article explore cette question à travers une étude de cas du morphème anticausatif en berbère taqbaylit (kabyle). Bien que ce préfixe, à savoir /n-/, ait le statut de morphème dérivationnel, il est lexicalisé dans une série de verbes. Une analyse morphophonologique sera fournie, certains points concernant la structure argumentale de cette série de verbes seront discutés, et il sera démontré que ce précédent morphème n'est plus réalisé comme un préfixe mais est incorporé dans la racine et est devenu la première consonne de la racine. Plus précisément, il sera argumenté que ce préfixe a perdu son statut de morphème et est donc dépourvu de toute information fonctionnelle ou catégorielle.*

Mots-clés *: lexicalisation, dérivation, anticausatif, réfléchi, berbère kabyle*

1. Introduction

Several works have been carried out on the allomorphy and phonological representation of verbal derivational prefixes in Berber languages (among many others, Guerssel, 1992a; Lahrouchi, 2001, 2018; Bendjaballah, 2007), but the issue of their lexicalization has never been addressed as far as I know. The latter issue is, however, central to understanding how the phonological sites hosting markers in the template affect the internal structure of the word, such that changing the position of a marker affects the semantics of the derived form. This paper addresses the issue of the lexicalization of the anticausative/reflexive prefix /n-/ in Taqbaylit[2].

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Received: August 31, 2024 | Revised: October 15, 2024 | Accepted: November 15, 2024 | Published: December 20, 2024

[2] Taqbaylit [θaqβajliθ], aka '*Kabyle'*, is a Berber/Amazigh language. The data is transcribed in the International Phonetic Alphabet (IPA), except for pharyngealization, which is marked by a dot below the letter.

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While Brinton and Traugott (2005) state that "*lexicalization has been conceptualized in a variety of ways*", here I use the term 'lexicalization' to refer to a morphological process of incorporating a derivational prefix into the root. I use it in the sense of 'univerbation' à la Lehmann (2020) and Haspelmath (2024), who define 'univerbation' as the diachronic transition from a word combination to a word-form. In this study, it refers to a diachronic phenomenon in which an anticausative prefix loses its morphemic status, is incorporated into the root, and becomes a root consonant. The result of this process is a new word that does not have a compositional meaning and behaves like an underived word.

The prefix /*n*-/ has previously been considered a conditioned variant of the reciprocal/passive prefix /*m*-/ in cases where the stem/root contains a labial consonant (*cf*., among others, Chaker, 1995). However, as will be shown in Section 2, it is, in fact, an independent morpheme in Taqbaylit Berber. Although this morpheme /*n*-/ functions as a derivational prefix in more than 140 verbs, it has lost its morphemic status in a subset of about fifteen verbs, according to empirical data collected from speakers of Taqbaylit/Kabyle. Some verbs from this subset are presented in (1). The glosses initially suggest a non-compositional semantic link between *n*-lexicalized verbs and their corresponding nominal (1a) or verbal (1b) bases; this will be further examined in the subsequent discussion.

(1)	**Base**	**Gloss**	***n*-verb**	**Gloss**
a.	iɣəð	*'ash'*	**n**-ɣəð	*'be reduced to ash'*
	θili	*'shade'*	**n**-təl	*'be sheltered'*
	ʃaw/	*'hairs', 'hair'*	**n**-ʃəw/	*'be plucked, to be depilated'*
	asətʃʃu		**n**-tʃəw	
	aʃlim	*'peel of a vegetble'*	**n**-ʃəl	*'be stripped, deprived of its skin'*
b.	ffəl	*'pass above, overflow'*	**n**-fəl	*'be overflowed'*
	xlu	*'empty, to desert'*	**n**-xəl	*'be empty'*
	ʃʃəf	*'shower'*	**n**-ʃəf	*'be cleaned (floor)'*
	ɣli	*'fall'*	**n**-ɣəl	*'be knocked down'*

Throughout this paper, the two series of *n*-verbs will be compared: the *n*-lexicalized verbs and the *n*-derived verbs. This comparison aims to provide a detailed analysis of the *n*-lexicalized verbs, which exhibit at least the following three specific morphophonological characteristics:

i) *a uniform template*: the form of *n*-derived verbs is augmented from the base form, as seen in the examples in (2a). By contrast, *n*-lexicalized verbs adhere to an *n*-C_1əC_2-type template, regardless of the base form, as shown by the examples in (2b).

(2)	**Stem**	**Gloss**	***n*-verb**	**Gloss**
a.	ḍfəs	*'to fold'*	**nnə**-ḍfas	*'be folded, fols oneself'*
	ʒlu	*'to disappear'*	**nnə**-ʒli	*'to exile oneself'*
b.	ffəl	*'pass above, overflow'*	**n**-fəl	*'be overflowed'*
	xlu	*'to empty, to desert'*	**n**-xəl	*'to be empty'*
	iɣəð	*'ash'*	**n**-ɣəð	*'be reduced to ash'*

b) *a simplex prefix /n-/:* in the series of verbs where /*n*-/ functions as a derivational morpheme, it is subject to allomorphy depending on its environment: it is geminate (long) in

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a _CC environment and simplex (short) in a _CV environment, as shown in (3a). By contrast, in *n*-lexicalized verbs, the prefix is always simplex, as shown in (3b).

(3)	**Envir.**	**Base**	**Gloss**	***n*-verb**	**Gloss**
a.	/_CC	fʃəl	*'to be exhausted'*	**nnə**-fʃal	*'to exhaust oneself'*
	/_CV	ðaʕ	*'to be lost'*	**n**-ðaʕ	*'to lose oneself'*
b.	/_CC	ʃʃəf	*'to shower'*	**n**-ʃəf	*'be cleaned (floor)'*
	/_CC	ɣli	*'to fall'*	**n**-ɣəl	*'be knocked down'*
	/_VC	iɣəð	'ash'	**n**-ɣəð	*'to be reduced to ash'*

c) *combination with a geminated causative prefix [ss-]*: when *n*-derived verbs are prefixed with the causative morpheme /*s*-/, this latter is always simplex (4a). In contrast, *n*-lexicalized verbs are consistently prefixed with a geminate causative [*ss*-] (4b).

(4)	Verb	***n*-verb**	***s-n*-verb**	**Gloss-verb**
a.	qləβ	**nnə**-qlaβ	**s**-nə-qlaβ	'to reverse'
	ʒlu	**nnə**-ʒli	**s**-nə-ʒli	'to disappear '
	rnu	**nnə**-rni	**s**-nə-rni	'to add'
b.	ɣli	**n**-ɣəl	**ssə-**n-ɣəl	'to fall'
	ffəl	**n**-fəl	**ssə-**n-fəl	'to overflow'
	xlu	**n**-xəl	**ssə-**n-xəl	'to empty'

A detailed analysis within the CVCV framework of autosegmental phonology (Lowenstamm, 1996; Scheer, 2004) will shed light on the following questions, arising from the features described above: why do these verbs consistently exhibit a uniform *CCəC*-type template? Why is their prefix /*n*-/ not subject to allomorphy? And why are they always prefixed with a geminated causative morpheme [*ss*-]? My answers to these questions will shed light on the realization of this prefix in the verbal template and explain how lexicalization is underlyingly represented in morphophonology.

This paper is organized as follows: in Section 2, I address the issue of the labial dissimilation hypothesis and demonstrate that /*n*-/ is a prefix in its own right in Taqbaylit Berber. In Section 3, I discuss the theoretical background of my study, which will serve as the foundation for a morphophonological analysis of the process of lexicalization of /*n*-/ in Section 4. Section 5 is dedicated to a brief and preliminary discussion on the argument structure of the two *n*-verb series. Section 6 concludes the paper.

2. /n-/ as an independent morpheme in Taqbaylit

The independence of the morpheme /*n*-/ in Taqbaylit has been well-established in recent literature (Bedar, 2022, 2023; Bedar, Bendjaballah & Haiden, to appear). Previously, this prefix was considered as a phonetically-conditioned allomorph of /*m*-/ which surfaces when the root contains a labial consonant (cf., among many others, Chaker, 1995; Bensoukas, 2014; Boukous, 2009; Koosmann, 2019; Lahrouchi, 2003, 2018; Elmedlaoui, 2012; Idrissi, 2001). The labial dissimilation rule which derives this allomorph is: /m/ → [n] / √[f, β, m]

This dissimilation hypothesis may be valid for some other Berber languages, such as Tashlhit (Bensoukas, 2014; Lahrouchi, 2018), Figuig Berber (Kossmann, 2007), and Tamazight (Idrissi, 2001). However, it has already been shown that this hypothesis does not apply to Taqbaylit, as noted by Elmedlaoui (2012). Many arguments against the labial dissimilation hypothesis in this language are presented in Bedar (2022, 2023) and Bedar, Bendjaballah & Haiden (to appear), but here I will summarize only three counterarguments:

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1) /*n*-/ and /*m*-/ are not in complementary distribution; 2) /*n*-/ and /*m*-/ combine with different stems; and 3) there are minimal pairs of verbs with prefixes /*n*-/ and /*m*-/.

2.1. Lack of complementary distribution

The first argument against the labial dissimilation hypothesis is that /*n*-/ and /*m*-/ are not in complementary distribution. This argument considers: i) the compatibility of the prefix /*m*-/ with labial consonants (5a) and ii) the compatibility of the prefix /*n*-/ with non-labial consonants (5b).

(5)	**Labial-C**	**Verb**	**Gloss**	***m/n*-verb**	**Gloss**
a.	C1=[+lab]	**f**aṛəs	*'to profit'*	**m-f**aṛas	*'to profit from each other'*
	C2= [+lab]	hə**mm**əl	*'to love'*	**m-**hə**mm**al	*'to love each other'*
	C3= [+lab]	qlə**β**	*'to reverse'*	**mjə-**qla**β**	*'to reverse each other'*
b.	all C_s [−lab]	sləx	*'to strip'*	**nnə-**slax	*'to be stripped'*
	all C_s [−lab]	ʃləx	*'to pull out'*	**nnə-**ʃlax	*'to be pulled out'*
	all C_s [−lab]	sərrəħ	*'to release'*	**n-**sərraħ	*'to release oneself'*

The data show that there is no phonetic conditioning related to the type of segments in the verb root. From this observation, it can be established that the hypothesis of labial dissimilation does not apply to Taqbaylit.

2.2. Combination with different stems

The second argument supporting that /*n*-/ and /*m*-/ are not allomorphs is that they do not combine with identical stems. This is illustrated by the verbs provided in (6).

(6)	**Base**	***m*-verb**	**Gloss**	***n*-verb**	**Gloss**
	ħəʃʃəm	**mjə-**ħʃam	*'intimidate each other'*	**n-**ħəʃʃam	*'be intimidated'*
	huzz	**m-**huzz	*'shake each other'*	**n-**həzz	*'be shaked'*
	hudd	**m-**hudd	*'destroy each other'*	**n-**hədd	*'be destroyed'*
	rnu	**mjə-**rnu	*'add for each other'*	**nnə-**rni	*'grow'*
	afəj	**mj-**ufaj	*'fly towards each other'*	**n-**fufəj	*'be propagated'*

The stems of *m*-verbs (reciprocals) are not identical to those of *n*-verbs (anticausatives/reflexives), as shown in these data. This shows that the two prefixes are distinct and exhibit different morphological behaviors.

2.3. Minimal pairs

The existence of minimal pairs of verbs prefixed by both /*n*-/ and /*m*-/ constitutes an additional argument against the labial dissimilation hypothesis. Some examples are provided in (7).

(7)	**Verb**	***m*-verb**	**Gloss**	***n*-verb**	**Gloss**
	ʃləx	**mjə-**ʃlax	*'spread each other'*	**nnə-**ʃlax	*'be spread'*
	βru	**mjə-**βru	*'release each other'*	**nnə-**βru	*'release onefelf'*
	ǒəqqəṛ	**m-**ǒəqqaṛ	*'throw each other'*	**n-**ǒəqqaṛ	*'throw oneself'*
	bəddəl	**m-**bəddal	*'exchange'*	**n-**bəddal	*'be changed'*
	huzz	**m-**huzz	*'shake each other'*	**n-**həzz	*'shake oneself'*
	xðəʕ	**mjə-**xðaʕ	*'betray each other'*	**nnə-**xðaʕ	*'betray oneself'*

In addition to the different meanings provided in the glosses, the syntactic distribution shows that the prefixes /*m*-/ and /*n*-/ are distinct and encode two different functions. The verb *ʃləx*

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'to spread' prefixed by /*m*-/ in (10) can select a direct object and encodes the reciprocity of the action among the subjects (the girls).

(8)[1]	mjə-ʃlax-ənt	θəqʃiʃθin=ənni	iqəʒʒaṛn=ənsənt
	REC-spread.PFV-3F.PL	CS.girls=DEM	FS.legs=POSS.3F.PL
	'The girls spread their legs for each other.'		

By contrast, the same verb prefixed by /*n*-/ is ungrammatical with a direct object, as shown in the example provided in (9).

(9)	*nnə-ʃlax-ənt	θəqʃiʃθin=ənni	iqəʒʒaṛn=ənsənt
	REFL-spread.PFV-3F.PL	CS.girls=DEM	FS.legs=POSS.3F.PL

This verb prefixed by /*n*-/ has the properties of a reflexive and anticausative verb, but not of a reciprocal one, as indicated by the glosses in the example provided in (10).

(10)	nnə-ʃlax-ənt	θəqʃiʃθin=ənni	
	REFL-spread.PFV-3F.PL	CS.girls=DEM	
	'The girls spread (their legs) themselves.'		(reflexive)
	'The girls' legs are spread.'		(anticausative)
	**'They spread (their legs) for each other.'*		(*reciprocal)

The minimal pairs and differing syntactic distributions of *n*-verbs and *m*-verbs support the hypothesis that these prefixes represent distinct morphemes. The morpheme /*m*-/ is specifically used for reciprocal marking, while the morpheme /*n*-/ serves as an anticausative/reflexive marker.

The three arguments summarized in this section show that /*n*-/ is not a phonetically-conditioned allomorph of the /*m*-/ but an independent morpheme in its own right, at least in Taqbaylit. For more details and an overview of *n*-verbs, the reader is referred to Bedar (2022, 2023), and Bedar, Bendjaballah & Haiden (to appear), and the references therein. Since this paper aims to provide a morphophonological analysis of *n*-lexicalized verbs, I will elaborate on the theoretical tools in Section 3, which will be used in a detailed formal analysis of the lexicalization of /*n*-/ in Section 4.

3. Theoretical background

This section introduces the theoretical framework used to analyze the lexicalization process of the anticausative/reflexive prefix /*n*-/ in Taqbaylit. It begins with a summary of *Strict CV Phonology* (Lowenstamm, 1996; Scheer, 2004), followed by a description of the *Initial CV* hypothesis (Lowenstamm, 1999), which posits the existence of an abstract morpheme at the left edge of the word, serving as a site for morphological operations. The section concludes by presenting the left edge of the verb in Taqbaylit and proposing the presence of two abstract morphemes that host voice markers.

3.1. Strict CV Phonology

Strict CV Phonology, also known as '*CVCV phonology*,' which was initially elaborated by Lowenstamm (1996), is an extension of Standard Government Phonology (Kaye et al. 1985, 1990). This framework proposes that syllable structure be considered as a strict succession of CV units, where vowels occupy V-positions and consonants occupy C-positions. The syllable representation operates on two levels: the level of skeletal positions and the level of

[1] The data is transcribed with IPA symbols. Abbreviations: 1, 2 & 3 = person, F = feminine, M = masculine, SG = singular, PL = plural, CS = construct state (Nominative Case), FS = free state (Accusative Case), DEM = demonstrative, POSS = possessive, PFV = perfective, REC = reciprocal, REFL = reflexive/anticausative.

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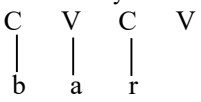
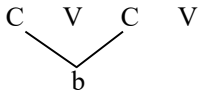
segments. These two levels are linked by association lines. Below, in (11), a summary of basic structural configurations within the *CVCV* model is presented.

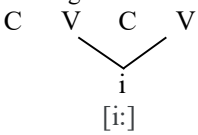
(11) a. Closed syllable



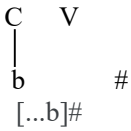
b. Geminated consonant



c. Long vowel



d. Final coda



The phonetic interpretation of empty V(ocalic) positions is gouverned by two phonological operations: *Proper Government* and *Empty Category Principle*.
a) *Proper Government* (PG):
a.i) Given two vocalic positions V1 and V2, V2 governs V1 if and only if:
- V1 and V2 are two adjacent positions, - V2 is located at the right of V1,
- V2 is phonetically interpreted while V1 is an empty position.
a.ii) a V position which is properly governed cannot in turn govern.

b) Empty Categories Principle (ECP):
The ECP governs the distribution of empty positions. It states that an empty V position that escapes the PG must be phonetically interpreted.

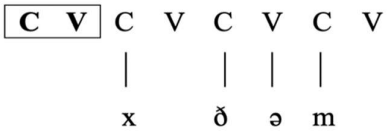
For an advanced and detailed understanding of the Strict CV Phonology framework and its different versions, the reader can refer to Szigetvári (1999), Rowicka (1999), Cyran (2003) and Scheer (2004).

3.2. *Initial CV* hypothesis

Lowenstamm (1999) proposes the existence of an empty derivational site at the beginning of the word, called the 'initial CV,' which exists at the left periphery of all major categories (verb, noun, and adjective). This concept was previously introduced by Guerssel (1992a), who proposed the existence of an 'abstract morpheme,' a skeletal site without segmental content, at the left periphery of verbs in Berber. This abstract morpheme serves as a site where phonological and morphological operations at the left periphery of the word occur. The symbol /#/ used in generative phonology notations is thus replaced by this abstract morpheme, illustrated by an empty CV site. Consequently, a word like *xðəm* traditionally represented as in (12a), is represented, according to Lowenstamm (1999), as in (12b).

(12) a. #xðəm#

b.



3.3. On the verbal left edge in Taqbaylit

Postulating a single CV site at the left periphery of the verb in Taqbaylit raises certain issues, which can be articulated as follows: why does a derivational morpheme that is phonologically simplex surface as simplex in some environments but geminate in others? Why do two

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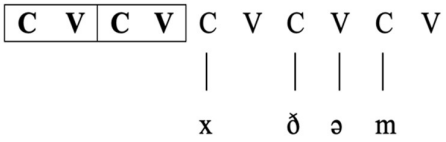
combined prefixes always surface as simplex, regardless of the right environment? Here, I follow the hypothesis proposed in Bedar (2022, 2023), which supports the existence of two empty CV units at the left periphery of the verb. These two CV units host floating morphemes/markers of Voice. Therefore, the representation for a word like *xðəm* is as illustrated in (13).

(13)



I summarize here two major arguments in favor of the hypothesis regarding the existence of two CV sites at the verbal left-edge: 1) prefixes can surface as either geminate or simplex; 2) when combined, prefixes surface only as simplex forms.

3.3.1. Prefixes as either geminate or simplex

Derivational prefixes in Taqbaylit surface as either geminate or simplex depending on their right environment. They appear as geminates in a _CC environment and as simplex in a _CV environment, as illustrated by the data in (14) with two derivational prefixes: the causative /*s*-/ in (14a) and the anticausative/reflexive /*n*-/ in (14b).

(14)	**Verb**	**Derived verb**	**Gloss-verb**
a. causative /s-/			
_CC	xðəm	**ssə**-xðəm	*'to work'*
_CV	mil	**s**-mil	*'to be inclined'*
b. anticausative /n-/			
_CC	qləβ	**nnə**-qlaβ	*'to renverse'*
_CV	ʒaħ	**n**-ʒaħ	*'to stray off the right track'*

This quantitative allomorphy necessitates considering these derivational prefixes as simplex floating segments. Given this, the fact that a morpheme can be geminate can only be explained by the existence of an additional skeletal position on which it propagates and surfaces as geminated. Thus, this implies the existence of two CV positions at the left periphery of the verb.

3.3.2. Combined prefixes surface only as simplex forms

If the surface realization of a single prefix depends on its right environment, the surface realization of combined prefixes relies solely on the skeletal material, without considering the right context. The data in (15) show that a single prefix is geminated in a _CC environment. However, when combined with another prefix it cannot be geminated, and both prefixes surface as simplex forms.

(15)	**Verb**				**Gloss-verb**
a. causative		***s*-verb**	***m*-*s*-verb**		
_CC	xðəm	**ssə**-xðəm	**m-sə**-xðam	***mə-ssə**-xðəm	*'to work'*
_CC	hləç	**ssə**-hləç	**m-sə**-hlaç	***mə-ssə**-hlaç	*'to be sick'*
b. anticausative		***n*-verb**	***s*-*n*-verb**		
_CC	qləβ	**nnə**-qlaβ	**s-nə**-qlaβ	***sə-nnə**-qlaβ	*'to renverse'*
_CC	rnu	**nnə**-rni	**s-nə**-rni	***sə-nnə**-rni	*'to add'*

The fact that combination of two prefixes prevents either from being geminated implies that there are only two CV sites at the left periphery of the verb. For further arguments supporting this hypothesis and an overview of the verbal left edge in Taqbaylit, the reader is referred to

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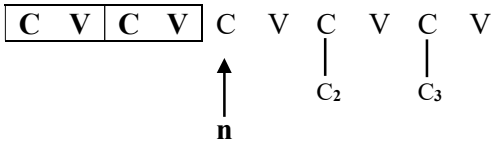
Bedar (2022, 2023) for a phonological account, and to Bedar, Bendjaballah & Haiden (to appear) for a phonosyntactic account.

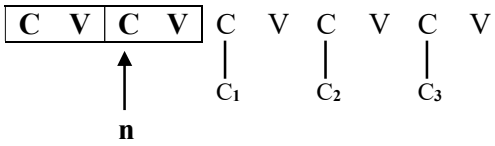
4. Analysis

To address the issues raised in Section 1 regarding the two classes of *n*-verbs, I assume that the prefix /*n*-/ is lexicalized in the verb types presented in (1). These verbs exhibit the same morphophonological behavior as non-derived CCəC-verbs such as *xðəm* 'to work'. I assume that the prefix /*n*-/: a) is a floating segment, meaning it does not have its own skeletal material; b) is underlyingly/phonologically simplex; and c) has lost its morphemic status in the verb series given in (1). This last assumption implies that the prefix /*n*-/ exhibits two behaviors: when lexicalized, it is realized within the stem as a first root-consonant, as represented in (16a); whereas, when it functions as an anticausative/reflexive morpheme, it is realized on the derivational CV sites at the left periphery of the stem, as represented in (16b).

(16) a. n-lexicalized verb



b. n-derived verb



In the remainder of this section, I will discuss five arguments that support the lexicalization of /*n*-/ in the *n*-verbs presented in (1): 1) *n*-lexicalized verbs have a standard CCəC-type template; 2) they combine with a geminated causative prefix /*s*-/; 3) they also combine with two other derivational prefixes; 4) their /*n*-/ is not subject to allomorphy; and 5) vowel insertion occurs in the negative perfective stem.

4.1. A standard CCəC-template

The first argument in favor of the lexicalization of /*n*-/ in the verbs listed in (1) is their integration into a standard $C_1C_2əC_3$-template, which is the most common in the language. The table in (17) lists the most common verb types attested in Taqbaylit, based on an analysis of 965 verbs provided by Bendjaballah (2007) using data from Dallet (1953).

(17)

	Verb type	Number	%	Example	Gloss
a.	$C_1C_2əC_3$	682	71.3	xðəm	*'work'*
b.	C_1VC_2	107	11.2	faθ	*'miss'*
c.	$C_1C_1əC_2$	60	6.3	ffəɣ	*'go out'*
d.	C_1C_2i	45	4.7	ɣli	*'fall'*
e.	a$C_1əC_2$	35	3.7	afəj	*'fly'*
f.	C_1aC_2i	27	2.8	raði	*'agree'*
		956	100		

Bendjaballah (2006)

The classification in (17) shows that the $C_1C_2əC_3$-type is the most over-represented verb type in Taqbaylit. The fact that the bases with different templates in (1), repeated below in (18),

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all conform to a uniform ***n***C_2əC_3-type template indicates that the prefix /*n*-/ is lexicalized as a first root-consonant.

(18)	**Base**	**Gloss**	***n*-verb**	**Gloss**
a. i.	iɣəð	*'ash'*	***n***ɣəð	*'be reduced to ash'*
ii.	θ-ili	*'shade'*	***n***təl	*'be sheltered'*
iii.	ʃaw/ asəʈʃʃu	*'hairs', 'hair'*	***n***ʃəw/***n***ʈʃəw	*'be plucked, to be depilated'*
iv.	aʃlim	*'peel of a vegetble'*	***n***ʃəl	*'be stripped, deprived of its skin'*
b. i.	ffəl	*'pass above, overflow'*	***n***fəl	*'be overflowed'*
ii.	xlu	*'empty, to desert'*	***n***xəl	*'be empty'*
iii.	ʃʃəf	*'shower'*	***n***ʃəf	*'be cleaned (floor)'*
iv.	ɣli	*'fall'*	***n***ɣəl	*'be knocked down'*

The data in (18) show that the stems of *n*-lexicalized verbs differ from their corresponding bases. Several modifications have occurred. For the *n*-verbs in (18.a), which have nouns as their corresponding bases, we observe:

(i) loss of the initial vowel[1] (a.i);

(ii) lexicalization of the feminine marker [θ-][2] and loss of noun vowels (a.ii);

(iii) loss of the vowel and other nominal affixes[3] (a.iii);

(iv) loss of the initial vowel and the final consonant root (a.iv).

For the *n*-verbs in (18.b), which have nouns as their corresponding bases, we observe:

(i) loss of initial gemination (b.i & b.iii);

(ii) loss of the final vowel (b.ii & b.iv).

A key observation from the data in (18) is that, regardless of the form of the base, all *n*-verbs follow the ***n***CəC pattern, with /*n*/ consistently surfacing as a simplex segment. This implies that these *n*-lexicalized verbs correspond to the template of the most productive verb type in Taqbaylit. This point about the template of *n*-lexicalized verbs is crucial for the following sections, in which will be demonstrated that these verbs exhibit behavior similar to that of non-derived triliteral verbs, such as *xðəm* 'to work'.

4.2. Combination with a geminated causative [*ss*-]

The second argument in favor of the lexicalization of /*n*-/ in the verb series repeated in (18) lies in its combination with the causative prefix [*ss*-]. Specifically, the hypothesis of the existence of two CV sites at the verbal left edge is a skeletal property that requires two combined derivational affixes surface ***only*** in their simplex/short versions. Conversely, the causative prefix /*s*-/ appears in its geminated form when it prefixes *n*-lexicalized verbs, as shown by the data in (19).

(19)	**Base**	***n*-verb**	***s-n*-verb**	***s-n*-verb gloss**
	iɣəð	***n***ɣəð	**ssə-*n***ɣəð	*'to reduce to ashes'*
	θili	***n***təl	**ssə-*n***təl	*'to put in the shade/shelter'*
	asəʈʃʃu	***n***ʃəw	**ssə-*n***ʃəw	*'to pluck, depilate'*
	aʃlim	***n***ʃəl	**ssə-*n***ʃəl	*'to strip, deprive of its skin'*

[1] A noun in Berber languages exhibits an initial vowel, often /a/. There is a consensus on its prefixal status, but not on its nature. It has been considered variously as a case marker (Guerssel, 1992b), a number marker (Ohalla, 1996) or a definite article (Vycichl, 1957; Brugnatelli, 2006).

[2] The dental fricative /θ/ becomes an occlusive after the consonants *n*, *l*, and *m*: /θ/ → [t] /n,l,m_ (Chaker, 1983; Laceb, 2000; Bedar & Quellec, 2020; Bedar, Quellec & Tifrit, 2022).

[3] The word */aw* 'fur/hair' is not attested in Taqbaylit, but it is attested in Tachawit (Another Berber language). But there is in Taqbaylit a similar word derived from the same root which is *a-sə-ʈʃʃu* 'hair'.

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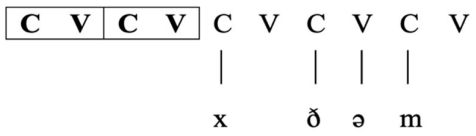
ffəl	***n***fəl	**ss**ə-***n***fəl	*'to make overflow'*
xlu	***n***xəl	**ss**ə-***n***xəl	*'to make empty'*
ɣli	***n***ɣəl	**ss**ə-***n***ɣəl	*'to make overturn'*

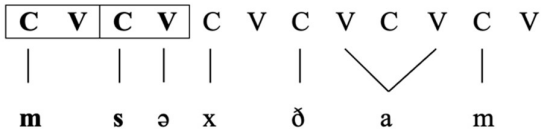
I will demonstrate that this can be explained by assuming that /*n*/ is not realized on the derivational sites at the verbal left-edge but is instead lexicalized; this means that it is realized on the first CV site of the initial root-consonant. It is important to recall that I assume two empty CV sites at the left periphery of the stem, in addition to the segmental content and skeletal material of the verb. This is illustrated in (20) with the verb *xðəm* 'to work'.

(20)



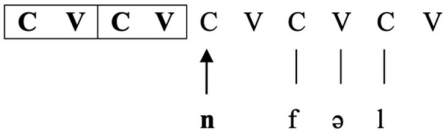
According to the representation in (20), the fact that two derivational morphemes can only surface in their short forms is related to the availability of skeletal material: there are only two CV positions at the verbal left-edge. While a derivational prefix may surface in its geminate or simplex form when it prefixes a verb alone, it always surfaces in its simplex form when combined with another derivational prefix, regardless of its right environment. For example, the combination of the reciprocal /*m*-/ with the causative /*s*-/ results in both prefixes surfacing as simplexes. This is illustrated in (21) with the verb *xðəm* 'to work', which forms *m-sə-xðam* 'to make each other work'.

(21)



If the two CV sites at the left periphery of the verb compel the two prefixes to surface only in their short forms, then why are the *n*-verbs in (19) prefixed by a geminated causative prefix [*ss*-]? This question finds a straightforward answer if we assume that the prefix /*n*-/ in this verb series is lexicalized; that is, it is not realized on the derivational site but rather on the first CV of the verbal stem, as illustrated in (22) with the *n*-lexicalized verb ***nfəl*** 'be overflowed'.

(22)



If the prefix /*n*-/ is realized on the first CV of the stem, one would expect a geminated causative prefix [*ss*], as illustrated with the *n*-lexicalized verb ***nfəl*** 'be overflowed' in (23a-b). Indeed, the prefix /*s*-/ is initially realized on CV-2, close to the root. The V position of CV-2 is not properly governed and can therefore be realized by a schwa, so it licenses CV-1. The latter is consequently exploited by the propagation of /*s*-/ which surfaces as a geminated consonant, as illustrated in (23b).

(23) a. Association of /*s*/ to CV-2

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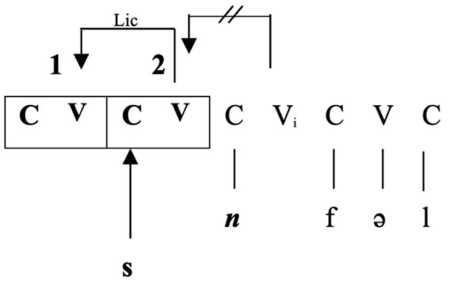
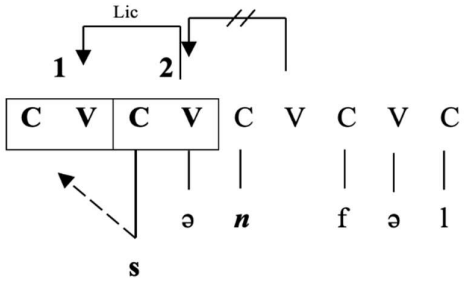


b. Gemination of /*s*/



[ssənfəl]

This illustration shows that /*n*/ is lexicalized and explains the gemination of the causative prefix /*s*-/ when it is combined with *n*-lexicalized verbs.

4.3. Combination of *n*-lexicalized verbs with two derivational prefixes

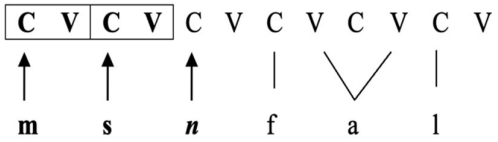
This third argument in favor of the lexicalization of /*n*-/ is a continuation of the previous one. We have seen that a verb can be prefixed by a maximum of two derivational prefixes, as it has only two CV sites on its left periphery. In (24), *n*-lexicalized verbs can be prefixed by two derivational prefixes: the reciprocal /*m*-/ and the causative /*s*-/.

(24)

Base	***n*-verb**	***s-n*-verb**	***m-s-n*-verb**
iɣəð	***n***ɣəð	**ssə-*n***ɣəð	**m-sə-*n***ɣað *'to reduce each other to ashes'*
ffəl	***n***fəl	**ssə-*n***fəl	**m-sə-*n***fal *'to make each other overflow'*
ɣli	***n***ɣəl	**ssə-*n***ɣəl	**m-sə-*n***ɣal *'to make each other overturn'*

Following the previously advanced argument, this fact is easily explained by considering that /*n*/ is part of the stem and not realized on the CVCV sites at the left periphery. This leaves the CV sites available to host the other two prefixes, namely the reciprocal /*m*-/ and the causative /*s*-/ in their short forms. This is illustrated in (25) with the derived verb *m-sə-**n**fal* 'make overflow each other'.

(25)



4.4. Non-allomorphy of the prefix /*n*-/

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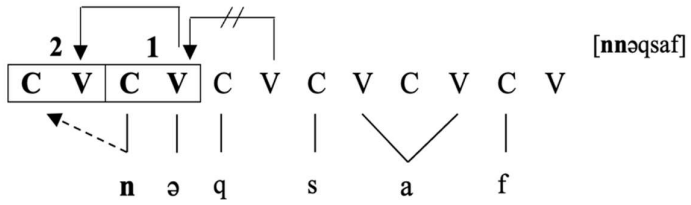
The fourth argument supporting the lexicalization of /*n*-/ in the verbs given in (18) lies in the invariability of its surface form. In *n*-derived verbs, the surface form is subject to quantitative allomorphy depending on its right environment (i.e., left environment of the base): it is geminate in a _CC environment (26a.i) and simplex in a _CV environment (26a.ii). By contrast, it is always simplex in *n*-lexicalized verbs regardless of the left environment of the base (26b).

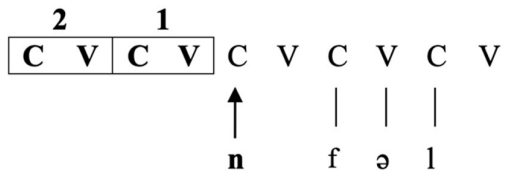
(26)			**Base**	***n*-verb**	**Gloss-base**
a.	i.	/_CC	qsəf	**nnə**-qsaf	'to break'
	ii.	/_CV	ðaʕ	**n**-ðaʕ	'to be lost'
b.	i.	/_VC	iɣəð	***n***ɣəð	'ash'
	ii.	/_CC	ffəl	***n***fəl	'to *overflow*'
	iii.	/_CC	ɣli	***n***ɣəl	'to fall'

This assumes that the prefix /*n*-/ in the verbs in (26a) is realized at the left periphery of the stem, as illustrated in (27) with the verb *qsəf* 'to break'. The gemination of /*n*-/ is due to this fact: /*n*-/ is initially hosted by CV-1, its V position is properly ungoverned, so it is realized as a schwa. This licenses CV-2, allowing /*n*-/ to spread to its C-position and surface as a geminate. In contrast, /*n*/ in the verbs in (26b) is internal to the stem, which is why it consistently surfaces as non-geminate, as illustrated in (28) with ***n****fəl* 'to be overflowed'.

(27)



(28)



4.5. Vowel insertion in the negative perfective

Vowel insertion in the negative perfective stem constitutes the fifth argument in favor of the lexicalization of /*n*-/. The negative perfective form is derived from its positive counterpart by inserting the vowel /*i*/ in the penultimate position, as illustrated with the verbs in (29).

(29)	**Perfective**	**Gloss**	**Negative perfective**	**Gloss**
	xðəm	'to work'	xð***i***m	'do not work'
	rwəl	'to flee'	rw***i***l	'do not flee'
	qsəf	'to break'	qs***i***f	'do not break'

This vowel occurs only in non-derived verbs. Verbs prefixed with causative, reciprocal, or reflexive morphemes do not exhibit this vowel in the negative perfective form, as shown by the data in (30)[1].

(30)	**Voice**	**Perfective**	**Negative perfective**	**Gloss**
	causative /*s*-/	ssə-çməʃ	ssə-çməʃ/ *ssə-çm***i**ʃ	*'to make crumpled'*

[1] See Bendjaballah (2001, 2007, 2014) for the constraints that prevent the insertion of the vowel /i/ in verbs prefixed with derivational morphemes.

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reciprocal /*m*-/	mjə-çmaʃ	mjə-çmaʃ/ *mjə-çm***i**ʃ	*'to crumple each other'*
reflexive /*n*-/	nnə-çmaʃ	nnə-çmaʃ/ *nnə-çm***i**ʃ	*'to crumple oneself'*

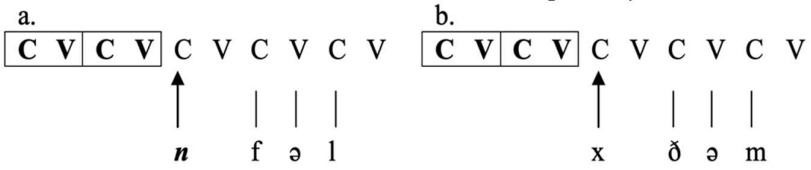
However, this is not the case for *n*-lexicalized verbs. These verbs have the vowel /*i*/ in the negative perfective, as shown in (31a), similar to the triliteral $C_1C_2əC_3$-type verbs in (31b).

(31)

	Base	Gloss	Perfective	Negative perfective
a.	ffəl	'to pass above'	***n***fəl	***n***f***i***l
	iɣəð	*'ash'*	***n***ɣəð	***n***ɣ***i***ð
	θili	*'shadow'*	***n***təl	***n***t***i***l
b.	xðəm	*'to work'*	xðəm	xð***i***m
	hləç	*'to be sick'*	hləç	hl***i***ç
	ltəf	*'to massage'*	ltəf	lt***i***f

The behavior of the *n*-lexicalized verbs in (31a) is similar to that of the non-derived verbs in (31b) in the negative perfective. This indicates that /*n*/ functions as the first root-consonant. In other words, /*n*-/ in the verb ***nfəl*** 'to be overflowed' is equivalent to the first consonant /*x*/ in the verb *xðəm* 'to work', as illustrated in (32a) and (32b), respectively.

(31)



Thus, the insertion of the vowel /*i*/ in the negative perfective provides additional support for the lexicalization of /*n*-/ in the verbs given in (18). There are additional arguments in favor of this lexicalization, but the reader is referred to Bedar (2022), and Bedar, Bendjaballah & Haiden (to appear) for more details. Furthermore, these *n*-lexicalized verbs are presented in language dictionaries as simple, non-derived verbs, likely without the authors realizing it.

In this way, by presenting five morphophonological arguments, I have demonstrated that the prefix /*n*-/ in the verbs listed in (18) has been incorporated into the verbal stem and functions as the first root-consonant. In the next section, I will provide a brief discussion on the argument structure of these *n*-lexicalized verbs.

5. On the argument structure of *n*-verbs

In this section, I will provide a brief overview of the argument structure of the two series of *n*-verbs. I will show that in *n*-derived verbs, the semantics of the derived form is compositional. However, in *n*-lexicalized verbs, /*n*/ is characterized by a loss of its inherent semantic value.

I will begin with the verbs where /*n*-/ functions as a derivational morpheme marking the anticausative/reflexive value. In the example given in (33a), the intransitive verb *ʒlu* 'to disappear' selects only a [+animate, -human] subject who is a patient affected by the action of 'disappear'. When this verb is prefixed with /*n*-/ as given in (33b), the following changes occur: i) the verb selects a [+animate, -human] subject; and ii) the subject becomes an agent.

(33)

a.	ʒla-n	jəfṛax=ənni	g	θmurtθ
	disappear.PFV-3M.PL	CS.birds=DEM	from	CS.country
	'The birds have disappeared from the country.'			
b.	**nnə**-ʒla-n	jərgazn=ənni	g	θmurtθ

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REFL-disappear.PFV-3M.PL CS.men=DEM from CS.country
'Men have exiled themselves from the country.'

The subject in the sentence (33b) is an agent who performs the action for its own benefit (for themselves). This demonstrates that the prefix /*n*-/ in this verb marks a reflexive value. The meaning of the derived form *nnə-ʒli* 'self-exile' is equivalent to the combined meanings of the verb and the reflexive prefix. Another value that /*n*-/ can mark is anticausative. For a detailed analysis of the syntax and semantics of these verbs, the reader is referred to Bedar, Bendajaballah & Haiden (to appear).

I now return to *n*-lexicalized verbs. The verb *xlu* 'to (be) empty', given in (34), is labile: it can be used both transitively (34a) and intransitively (34b). The *n*-lexicalized verb based on this root, given in (34c), is used only intransitively. The subject of this *n*-verb is not an agent but a patient.

(34) a. jə-xla wərgaz=ənni ldʒiβ=is
3M.SG-empty.PFV CS.man=DEM pocket=POSS.2S
'The man has emptied his pocket.'

b. jə-xla ldʒiβ=is
3M.SG-empty.PFV pocket=POSS.2S
'His pocket is empty.'

c. jə-***n***xəl ldʒiβ=is
3M.SG-**n**.empty.PFV pocket=POSS.2S
'His pocket is hollow/deeply empty.'

In the sentence (34c), one would expect a reflexive verb that selects an agent subject who performs the action for its own interest, but this is not the case. Instead, /*n*/ alters the meaning of the verb in an unpredictable way. This indicates that it has lost its morphemic status and inherent semantic value, and has been lexicalized as the first root-consonant.

6. Conclusion

In this paper, I have provided an analysis of *n*-lexicalized verbs in Taqbaylit. The key contributions of this study are as follows:

a) I have shown that the derivational prefix /*n*-/ constitutes a distinct morpheme in Taqbaylit and is not a phonetically-conditioned allomorph of /*m*-/, which was previously thought to appear only when the root contains a labial consonant.
b) I have argued that the prefix /*n*-/ is lexicalized in a subset of *n*-verbs, meaning it becomes incorporated into the stem. This type of grammaticalization is captured within the CVCV framework: the *n*-lexicalized is realized on the first CV of the stem, rather than on the CVCV sites at the verbal left periphery.
c) Regarding the argument structure of *n*-verbs, I have shown that when /*n*-/ functions as a derivational morpheme, the semantics of the derived form is compositional. In contrast, in *n*-lexicalized verbs, /*n*/ exhibits a loss of its inherent semantic value.

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