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► **To cite this version:**

Mena B. Lafkioui, Vermondo Brugnatelli. Negation in Berber: variation, evolution, and typology. *Linguistics*, 2020, 58 (4), pp.967-1008. hal-01987161v2

HAL Id: hal-01987161

<https://hal.science/hal-01987161v2>

Submitted on 20 Sep 2019

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1 To cite: Lafkioui Mena B. and Vermondo Brugnatelli, Forthcoming.
2 Negation in Berber: variation, evolution, and typology. *Linguistics*.

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6 **Negation in Berber: variation, evolution, and typology**

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9
10 **Abstract**

11 Double and triple negation marking is an ancient and deep-rooted feature that is attested
12 in almost the entire Berber-speaking area (North Africa and diaspora), regardless of the
13 type of negators in use; i.e. discontinuous markers (preverbal and postverbal negators)
14 and dedicated negative verb stem alternations. In this article, we deal with the main stages
15 that have led to the present Berber negation patterns and we argue, from a typological
16 viewpoint, that certain morphophonetic mechanisms are to be regarded as a hitherto
17 overlooked source for new negators. Moreover, we present a number of motivations that
18 account for the hypothesis that, in Berber, those languages with both a preverbal and a
19 postverbal negator belong to a diachronic stage prior to the attested languages with a
20 preverbal negator only. Consequently, the study demonstrates that the Jespersen Cycle is
21 back to the beginning in certain Berber languages. In doing so, we also show that Berber
22 is to be regarded as a substrate in the development of double negation in North African
23 Arabic. In addition, the study accounts for the asymmetric nature of Berber negation,
24 although some new developments towards more symmetrical negation configurations are
25 also attested.

26
27 **Keywords:** negation, Berber, typology, diachrony, contact, the Jespersen Cycle

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40 1 Introduction

41

42 The morphosyntax of negation in Berber – a language family of the Afroasiatic phylum
43 – is rich and complex, and appears to be the outcome of multiple processes that have
44 taken place over different time-periods from prehistory to the present day. The most
45 noteworthy trait of Berber negation is its “triple negation” marking, involving not only
46 discontinuous negative markers (NEG1/NEG4 and NEG2) but also dedicated “negative
47 verb stem alternations” (NEG3) — a feature that is attested in almost the entire Berber-
48 speaking area (North Africa; Sahara, North, and Northwest Sahel included). We argue
49 that these vocalic verb stem alternations (NEG3), and in particular the morphophonemic
50 mechanisms behind them, are to be regarded as a source for the creation of new negators,
51 which will be discussed in detail in section 4 of the study.

52 Moreover, we will attempt to single out the main processes that have led to the current
53 stages of standard negation in Berber – i.e. the negation of a main clause declarative
54 verbal predicate – while taking into account the role of the so-called Jespersen Cycle
55 (1917: 4), which in Berber has evolved from single to triple negation and back to single
56 negation.

57 A ‘classical’ Jespersen Cycle basically stands for the following three-fold diachronic
58 transformation path of clausal negation marking, which includes various in-between and
59 overlapping stages in Berber (see section 3):

- 60 - Stage I: one marker is a sole negator and is weakened in time (NEG1)
- 61 - Stage II: the weakened negator is strengthened by means of an element of a various
62 nature, which is reanalysed as a new negator (NEG1 + NEG2).
- 63 - Stage III: the new reanalysed element becomes the sole negator (NEG2).

64 However, we consider the motivation behind these cyclical changes to be of a
65 pragmatic kind rather than of a phonetic kind, the latter being proposed in Jespersen (1917:
66 4), where phonetic weakening is regarded as the triggering factor of the negative
67 diachronic changes. From a grammaticalisation perspective, which directly relates to
68 these cyclical negation patterns, it would be more reasonable to view the formal
69 modifications pertaining to negation as outcomes of content modifications, which would
70 relate to the pragmatic context, including strategies such as emphasis, contrast, and
71 presupposition. Our viewpoint is thus more in line with Meillet’s understanding (1912:
72 140) of the negative diachronic cycle, which is shared and discussed in detail in van der
73 Auwera (2009).

74 Consequently, the concept of the Jespersen Cycle (henceforth ‘JC’) is used here as a
75 negative cycle that is instigated by functional (semantic and pragmatic) “weakening” in
76 the course of its evolution, which may be combined with formal (phonetic and
77 morphological) weakening. In the Berber language family, five negation stages with their
78 respective bifurcations are found, and which make up what we call here the Extended JC
79 for Berber (section 3 and Table 2). The relative chronology of these stages will be
80 reconstructed on the basis of formal criteria (sections 3 and 4). Starting from stage II of

81 the JC, the Berber verb may or may not display a negative verb stem, which is coined in
82 the article as NEG3, because it follows NEG2 in the Berber negation diachrony, which
83 will be accounted for in section 4 of the article.

84 As for the discontinuous negators, the principal variant of NEG1 is most probably of
85 Berber origin and is derived from **wəɾ*, a grammaticalised verbal form composed of the
86 negation element **w* or **u* and the verbal root **r* (modal auxiliary): **wəɾ* = NEG = [NEG
87 **w* or NEG **u* + V **r*].¹ The preverbal negators other than this variant appear to be
88 innovations and are indicated in this study with NEG4. This latter negator is part of a
89 negative cycle distinct from the Extended JC for Berber, which will be discussed in
90 section 3.4.

91 While the preverbal negator is obligatory in most Berber languages – with the
92 exception of some cases where only the postverbal is used (see section 2.3.1 below),
93 NEG2, which usually follows the verb predicate, may be optional – as an intensifier – or
94 required, depending on the negation context. NEG2 may also be absent for discursive or
95 expressive purposes, or may be replaced by other elements (i.e. adverbs, indefinite
96 pronouns), which are considered to be semantically or pragmatically more adequate or
97 more emphatic, but these cases do not belong to standard negation and will therefore not
98 be dealt with here, although some cases of non-standard negation will be presented
99 whenever necessary for the discussion. Moreover, NEG2, which is generally derived from
100 an expression signifying ‘thing’, ‘something’, or ‘someone’ (e.g. *šra* ‘thing’), was
101 originally an element of intensification (emphasis) and still is to a different degree in
102 various Berber languages (see Table 1 in section 2.4 for a general overview of NEG2
103 instances). With time, the pan-Berber NEG2 has lost some of its marking strength and
104 therefore other forms were used to complete the postverbal negator function.² The
105 grammaticalisation of NEG2 has reached various stages and its precise functional roles
106 differ from one Berber language to the other.

107 As for the current Berber verbal system, it is fundamentally tripartite, with a basic
108 aspectual opposition between the perfective and the imperfective, and with the neutral
109 aorist, which stands for both modal and aspectual values. In many Berber languages, this

¹ About the etymological origin of the discontinuous negator NEG1__NEG2 in Berber, see e.g. Brugnatelli (2011), Chaker (1996), and Galand (1994). Note that NEG1 may also be rendered by amalgams containing the pan-Berber negator, like for instance in Western Rif Berber (Senhaja, Northwest Morocco), where forms like *u-la* and *u-ma* are attested. Berber elements which are not based on the pan-Berber *u*, like for instance *ak* from Ghadames Berber (Libya), are also sporadically used as preverbal negators.

² Among these forms, there are also quantifiers and negative polarity items (NPI), the diachrony of which is not within the scope of this paper. Some examples of the close connection between NPI and NEG2 are the following: in Tamazight of Zemmour (Central Morocco, Boumalk 1996), *ša wer yuy* (anything NEG1 buy-PFV-3MSG) ‘He has not bought a thing’, the NPI *ša* ‘anything’ is homophonous of and probably even the source of NEG2 ; the same goes for the following example of the same language, which contains even a pronoun referring to the NPI: *ša wer t zrix* (anything NEG1 3MSG=see-PFV-1SG) ‘I have not seen a thing’. Similar cases are found in other Berber languages, like in Rif Berber (North Morocco); e.g. *ša wa t-yənni* (anything NEG1 3MSG=say-PFV_{NEG3}-3MSG) ‘He has not said a thing’ > ‘It is not worth a thing what he has said’; more details about this phenomenon are given in Lafkioui (2013b).

110 tripartite system is limited to affirmatives; only perfectives and imperfectives are used in
111 the context of negation. Consequently, the Berber negation system can be considered to
112 be “asymmetric” and more precisely “paradigmatically asymmetric”, as defined by
113 Miestamo (2005: 7–10).

114 Another typologically interesting feature attested in most Berber languages is the
115 fronting of clitics triggered by preverbal negators — a phenomenon also observed with
116 other particles as well as in relatives and in *wh*-interrogatives. Pronominal and ventive
117 clitics precede the verbal head (but follow the negator), usually without changing their
118 respective order, namely [indirect clitic + direct clitic + ventive clitic]. As this
119 phenomenon is out of the scope of our article, we look at it here only in the context of the
120 features examined.³

121 Additional typological features of the Berber languages are their primarily synthetic
122 (inflection, derivation, and compounding) and inflecting nature. They also have in
123 common a VSO basic word order, an obligatory encoding of the subject on the verb, the
124 preposition-noun sequence, possessive suffixes and a mixed morphological plural
125 formation (affixation and/or vocalic alternations). Apart from noun-verb oppositions, all
126 other word class distinctions are not clear-cut in Berber. The Berber languages also
127 provide evidence for one of the irrefutably typological linguistic characteristics of Africa;
128 i.e. the marked-nominative (König 2006; Lafkioui forthcoming).

129 In the light of the features and viewpoints presented in this introduction, the present
130 study will present synchronic, diachronic, and typological evidence that proves that:

- 131 - Berber possesses triple negation, with specific vocalic verb stem alternations as
132 NEG3 and with the particular morphophonemic mechanisms involved as a new
133 source type for the creation of negators.
- 134 - [NEG1 + V/V_{NEG3} + NEG2] is a language stage of Berber origin and is prior to the
135 currently attested [NEG1/NEG4 + V], which implies that the Jespersen Cycle is
136 back at its starting point in certain Berber languages.
- 137 - Berber negation is significantly asymmetric, even though a new trend towards
138 more symmetrical negation patterns can be found in certain languages.

139 The article is organised as follows. In section 2, the negation system of Berber is
140 considered in detail by analysing its synchronic features and patterns. Section 3 addresses
141 Berber’s negation system from a diachronic and typological perspective, with a special
142 focus on discontinuous negation marking. Section 4 is dedicated to the negative verb
143 stems and their connection with the origin of NEG3. The article ends with a number of
144 historical and typological conclusions.⁴

145

³ Attempts to explain the origin of NEG1 by means of clitic placement are made in Prasse (1972: 244).

⁴ The original transcription of the cited Berber examples is maintained, with minimal adjustments in order to enhance the examples’ intelligibility. We have also made certain modifications to Lanfry’s transcriptions, according to the author’s own phonetic suggestions (Lanfry 1968: xxxiv-xxxvi). All English glosses of the Berber examples are our own.

146 2 Negation from a synchronic perspective

147

148 Berber languages can be divided into three main negation types, which are divided into
149 two subtypes, depending on the absence or presence of negative verb stems. Since this
150 section deals with the synchronic typology of negation in Berber, indications about the
151 respective diachrony of the negators involved (i.e. NEG1, NEG2, NEG3, NEG4) are not
152 given here but are considered in the diachrony sections 3 and 4.

153 - **Type 1: NEG + V/V_{NEG}**; concerns the Berber languages that do not use postverbal
154 negators.

155 • Subtype 1a: NEG +V; does not include the negative verb stem.

156 • Subtype 1b: NEG +V_{NEG}; includes the negative verb stem.

157 - **Type 2: NEG + V/V_{NEG} + NEG**; concerns the Berber languages that do use both
158 preverbal and postverbal negators.

159 • Subtype 2a: NEG + V + NEG; does not include the negative verb stem.

160 • Subtype 2b: NEG + V_{NEG} + NEG; includes the negative verb stem.

161 - **Type 3: V/V_{NEG} + NEG**; concerns the Berber languages that do not use preverbal
162 negators.

163 • Subtype 3a: V + NEG; does not include the negative verb stem.

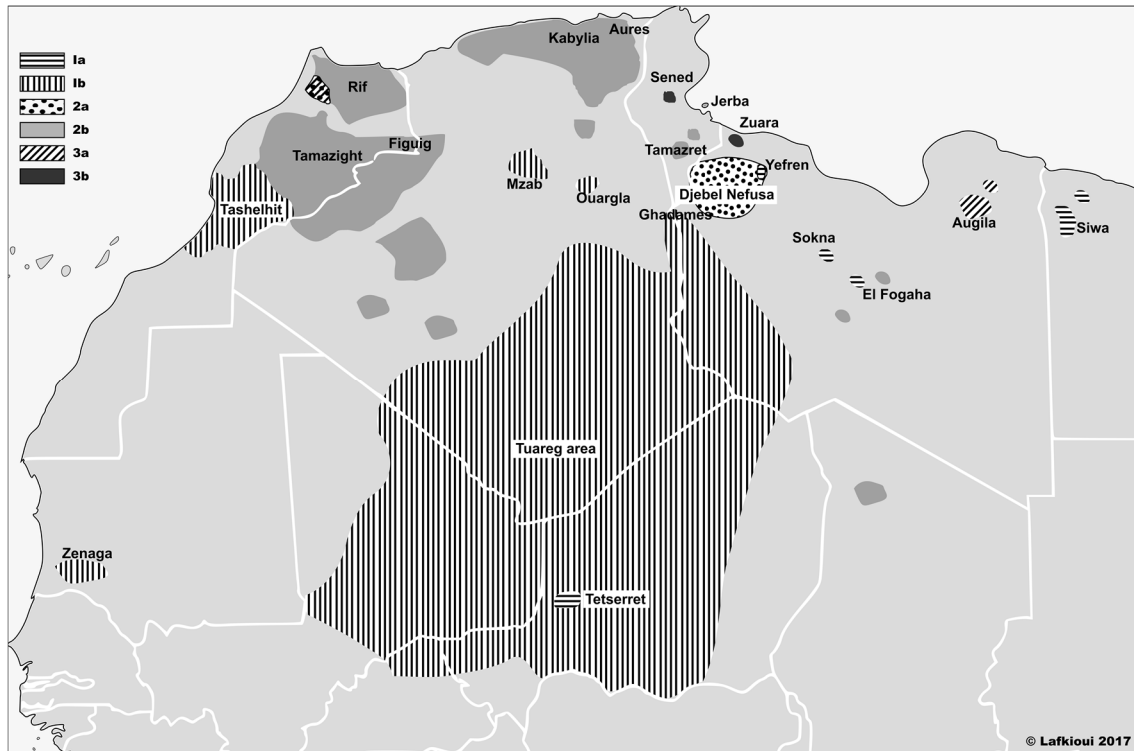
164 • Subtype 3b: V_{NEG} + NEG; includes the negative verb stem.

165

166 Intermediate stages, wherein languages can mainly belong to one type but residually or
167 innovatively also display features of another type, are also found in the Berber language
168 family and will be discussed in the following sections.

169 The distribution over North Africa is represented in Figure 1 (see below). The most
170 widespread negation pattern is type-2b (triple negation), in terms of spoken languages.
171 Even though the Type-1b area (mainly the Sahara) is vast compared to the other North
172 African areas, the number of Berber speaking people there is much lower than in the more
173 northern zones, like in Kabylia (North Algeria) for instance.

174



175

Figure 1. Overview of the synchronic standard negation types in Berber

176

177

2.1 Type 1: NEG + V/V_{NEG}

178

179

This morphosyntactic type contains the Berber languages that do not use postverbal negators. It is divided into two sub-types according to the presence or absence of the negative verb stem.

180

181

182

2.1.1 Subtype 1a: NEG + V

183

184

185

The languages that belong to subtype 1a are certain Eastern languages, namely Berber of Siwa (Egypt), of Sokna and of El-Fogaha (Fezzan, Libya), and of Yefren (Tripolitania, Libya). The attested preverbal negators are diverse, in terms of both synchrony and diachrony, and usually do not trace back to the well-known ancient pan-Berber form **wār/wāl*. The following example of Siwa Berber (Egypt) with *la* as the preverbal negator illustrates this:⁵

186

187

188

189

190

191

192

5 Apart from the case of Siwa Berber, the negator *la* and its variants (e.g. *ula*) are also attested in other Berber languages, like in Rif Berber (Lafkioui 1996, 2007: 234–236), where it is used in both preverbal and postverbal position, and in certain Eastern Kabyle varieties, where it comes after the verb (Rabhi 1992: 143). On the origin of this particle, see Brugnatelli (2010).

193 (1) *mak inəyy təmsi, la ntmata ssqi*
 194 when kill.PFV.3MSG fire.FSG NEG feel.PFV.1PL cold
 195 ‘When he extinguished the fire, we did not feel the cold.’
 196 (Leguil 1986: 35; Siwa Berber)

197

198 The same goes for El Fogaha Berber (Libya), where the negator (*ě*)*nk* is commonly
 199 attested, such as in the assertion in (2).

200

201 (2) *ěnk a tused*
 202 NEG IRR come.AOR.3FSG
 203 ‘She will not come.’
 204 (Paradisi 1963: 93; El Fogaha Berber)

205

206 It is worth mentioning that this negator is also used in non-standard negation, such as in
 207 injunctions when it is followed by a verb in the aorist (3) and in negative constructions
 208 with noun phrase predicates (4).

209

210 (3) *nk a tkəmət*
 211 NEG IRR enter.AOR.2SG
 212 ‘Do not enter!’
 213 (Paradisi 1963: 115; El Fogaha Berber)

214

215 (4) *ěnk tmellâlt*
 216 NEG white.FSG
 217 ‘She is not white.’
 218 (Paradisi 1963: 115; El Fogaha Berber)

219

220 In the context of injunctions, (*ě*)*nk* can be replaced by the preverbal negator *bâk*, which
 221 is necessarily followed by a verbal form that takes the 2nd person of the aorist, singular
 222 (5a) or plural (5b).

223

224 (5) a. *bâk a tūrâit*
 225 NEG IRR write.AOR.2SG
 226 ‘Don’t write!’
 227 (Paradisi 1963: 115; El Fogaha Berber)

228

229 b. *bâk a temžerem!*
 230 NEG IRR harvest.AOR.2PL
 231 ‘Don’t harvest!’
 232 (Paradisi 1963: 115; El Fogaha Berber)

233

234 A similar negator, which contains the unit *b* and which is used with the imperative-
 235 prohibitive, is *abû*; it is attested in the nearby oasis of Sokna (Sarnelli 1924: 22)⁶, where
 236 the preverbal negators (*i*)*ngi*, *enk*, and *enki* commonly occur in standard negation, as is
 237 displayed in (6) for (*i*)*ngi*.⁷

238

239 (6) *zēmân ellân mār ingî isél dē lahl=éennes am nētta*
 240 once be.PVF.3MPL man NEG hear.PFV.3MSG and wife=3SG like 3MSG
 241 ‘Once upon a time, there was a man who could not hear (he was deaf) and his wife
 242 who was like him.’
 243 (Sarnelli 1924-25: 32; Sokna Berber)

244

245 Other preverbal standard negators attested in Sokna are *yul*, *ul*, and *lā*; e.g. sentence
 246 (7) is negated by means of the marker *la*, whereas (8) has *ul* for its negation.⁸

247

248 (7) *lállā=s lā tēnāžžām a tēssēmbi sēn*
 249 mother=3SG NEG can.PFV.3FSG IRR breastfeed.AOR.3FSG two
 250 ‘His mother could not breastfeed both.’
 251 (Sarnelli 1924: 34; Sokna Berber)

252

253 (8) *ul issén*
 254 NEG know.PFV.3MSG
 255 ‘He does not know.’
 256 (Sarnelli 1924: 45; Sokna Berber)⁹

257

6 The negator *abû* appears in a sentence recorded by Richardson (1850): *abut init sa* ‘don’t say so’. The vowels are hypothetical, since in the Arabic script one reads *’bi’nts’*. The form *abut* would be an auxiliary verb with a plural marker *-t* of the imperative (see Souag 2015). There may be a link with the dialectal Arabic verb (*ma*) *ba* ‘will (not)’, if one takes into account the existence of certain constructions in El Fogaha Berber, like e.g. *mā bāt atenn-ās* ‘she did not tell it to him’ (literally ‘she did not want to tell...’; NEG/want-PFV-3FSG/IRR-tell-AOR-3FSG=3MSG; Paradisi 1963: 93), *la-bâ a yug-ét u la-bâ a iwôt* ‘neither did he take it nor did he strike’ (lit. ‘neither he wants to take it nor he wants to strike’, Paradisi 1963: 95; NEG=want-PFV-3MSG/IRR-take-AOR-3MSG=3MSG/and/NEG=want-PFV-3MSG/IRR-strike-AOR-3MSG). Likewise, in some other instances, Sokna Berber employs *yugi* ‘he refused’ as a negator (Sarnelli 1924: 40; note that it is erroneously spelt *ingi*, twice, on p. 35).

7 It should be mentioned that the residual use of a negative stem was recorded by Sarnelli in the beginning of the 20th century, but just for certain grammatical persons of the verb ‘be (there)’; e.g. *yellâ* ‘there is’ vs. *ngi yellî* ‘there is not’, compared to the unchanged stem in (*engi*) *ellân* ‘there are (not)’ (Sarnelli 1924: 18).

8 No example of *yul* or of *abû* appears in Sarnelli’s texts (1924); they are merely listed in the glossary. The scanty documentation on this language does not permit a detailed analysis of its negators. In some notes by Richardson (1850), one finds discontinuous constructions, like e.g. *enk esnex ši* ‘I don’t know’, and even constructions with a postverbal negator only, such as *elix šra* ‘I have not’. Moreover, the most frequent negator in Richardson’s notes is written as *inki* (or *enki*?) instead of *ingi* (Souag 2015).

9 This sentence is the emendation of Lyon’s (1821: 316) phrase ‘stupid = *williseen*’ by Sarnelli; the latter points out that, at the time of his investigation, the people of Sokna used the expression *ingî issén* with the negator *ingi* instead.

258 As for Yefren Berber (Libya), like most of the 1a-type languages, it does not make use
 259 of the pan-Berber preverbal negator **wər/wəl*, at least not as a proclitic, but rather as part
 260 of a grammaticalised form, i.e. the adverbial expression *ulyuš* ‘still’ (10).¹⁰ The negator
 261 *mi* is usually employed instead (9), sometimes in combination with *ulyuš* (10). The
 262 proclitic *mi* is in complementary distribution with the allomorph *m*, which appears before
 263 a vowel (11).¹¹

264

265 (9) *mi* *zriy=t*
 266 NEG see.PFV.1SG=3MSG
 267 ‘I have not seen him.’
 268 (Abuzakhar 2011; Yefren Berber)

269

270 (10) *ulyuš* *mi* *rxun=awən*
 271 still NEG release.PFV.3MPL=2MPL
 272 ‘They have not released you yet.’
 273 (Abuzakhar 2011; Yefren Berber)

274

275 (11) *utlayən* *yən m’* *utlayən*
 276 speak.PFV.3MPL or NEG speak.AOR.3MPL
 277 ‘They speak or they do not speak.’
 278 (Abuzakhar 2011; Yefren Berber)

279

280 In all 1a-type languages, the regular preverbal negator is different from the commonly
 281 used pan-Berber **wər/wəl*. As a matter of fact, most of these negators are innovated forms,
 282 a point that we discuss in detail in section 3. Interestingly, the languages of this group
 283 also have in common that their preverbal negator does not trigger a position change of
 284 clitics (9–10), which is not usual practice in Berber.¹² The common configuration is
 285 exemplified in the sentence of Jerba Berber in (12), where the clitic *t-* is fronted because
 286 of the presence of the preverbal negator, while its canonical position would be postverbal.

287

288

10 Concerning the verbal origin of this adverbial expression, see Brugnatelli (2011: 521–524, 2014b: 171).

11 The enclitic negator *-š* is marginally attested here. As for the possible origin of Yefren’s *mi*, see Brugnatelli (2014a: 130). The Yefren examples from (9) to (11) come from the poem *Ass-u-nney d knim mi tellim* ‘It’s our feast and you are not there’, which was composed by Fathi Salem Abuzakhar in January 2011 and which is diffused by the Internet in written form as well as in a recorded sound file.

12 Some other Berber languages which do not systematically prompt a position change after the preverbal negator and which do not belong to the subtype 1a are, for instance, Tashawit (Lafkioui and Merolla 2002: 23–24), which is spoken in the Algerian Aures area, and western Tarifit (aka Senhaja Berber; Lafkioui 2007: 128) of Northwest Morocco. For other Berber languages where this phenomenon is observed, see Brugnatelli (1993: 234–237).

289 (12) *wə t=zriγ* *š*
 290 NEG 3MSG=see.PFV.1SG NEG
 291 ‘I have not seen him.’
 292 (Brugnatelli, personal corpus; Jerba Berber)
 293

294 In contrast to (12), the examples from Siwa (13), from El Fogaha (14), and from Sokna
 295 (15), do not exhibit a position change of the postverbal clitics in the presence of the
 296 preverbal negator.
 297

298 (13) *wən l iεəžb=asən*
 299 what NEG please.PFV.3MSG=3MPL
 300 ‘what did not please them’
 301 (Leguil 1986: 32; Siwa Berber)
 302

303 (14) *nk essénâγ=t*
 304 NEG know.PFV.1SG=3MSG
 305 ‘I don’t know him.’
 306 (Paradisi 1963: 95; El Fogaha Berber)
 307

308 (15) *ingî yěnnâ=s i mâr udînak: éčč!*
 309 NEG say.PFV.3MSG=3SG to man DEICT eat.AOR.IMP.2SG
 310 ‘He did not say to that man: Eat!’
 311 (Sarnelli 1924: 34; Sokna Berber)
 312

313 Another Berber language where negation is usually expressed through a preverbal
 314 negator only is Tetseret (Niger). Yet this language displays a residual use of the stem
 315 modification negator in the imperfective of certain verbs (16b), while in the perfective a
 316 difference in stress pattern is used to distinguish between positive (16c) and negative
 317 constructions (16d).
 318

319 (16) a. *iyəffəd*
 320 rot.IPFV-3MSG
 321 ‘It (milk) goes bad.’
 322 (Lux 2013: 321; Tetseret)
 323

324 b. *wər iyəffəd*
 325 NEG rot.IPFV_{NEG}-3MSG
 326 ‘It (milk) does not go bad.’
 327 (Lux 2013: 321; Tetseret)
 328
 329

330 c. *iʃba*
331 drink.PFV-3MSG
332 ‘He drank.’
333 (Lux 2013: 287; Tetsrerret)

334
335 d. *wər iʃba*
336 NEG drink.PFV-3MSG
337 ‘He did not drink.’
338 (Lux 2013: 287; Tetsrerret)

339
340 This suprasegmental negation marker could be the final stage of a development towards
341 a complete loss of the stem modification negator, which would make Tetsrerret resemble
342 certain Tashelhiyt varieties (South Morocco) that are losing this kind of negator and hence
343 are shifting from subtype 1b to 1a (see section 2.1.2).

344
345 **2.1.2 Subtype 1b: NEG+V_{NEG}**

346
347 The second subtype is mainly attested in Southern Berber, which comprises languages
348 such as Zenaga (Mauritania), Tashelhiyt (South Morocco), Tuareg Berber (Sahara), and
349 some oasis languages, like Berber of Mzab (Algeria), of Ouargla (Algeria), and of
350 Ghadames (Libya). These languages use both a preverbal negator – usually the pan-
351 Berber **wər/wəl* – and the negative verb stems, like in (17) from Tuareg Berber (Niger),
352 for instance:

353
354 (17) a. *ittəl*
355 roll.up.PFV.3MSG
356 ‘He rolled up.’
357
358 b. *wər ittel*
359 NEG roll.up.PFV_{NEG}.3MSG
360 ‘He did not roll up.’
361 (Petites Sœurs 1974: 169; Tuareg Berber)

362
363
364 However, negative stems are losing ground in some languages of this group, in particular
365 in the Tashelhiyt area (South Morocco). The old written texts from this language account
366 for the former existence of negative imperfective stem forms, which are nowadays lost.
367 Even the negative perfective tends to be less frequently used in certain local Tashelhiyt
368 varieties, where it may even disappear in certain contexts. In example (18b), stem vowel
369 alternation after the preverbal negator is displayed, which is generally the case in

370 Tashelhiyt, whereas in example (19) from the variety of Ida Outanane, the verb may also
371 remain unmodified.

372

373 (18) a. *thddn* *tmyart*
374 calm.down.PFV.3FSG woman.FS.DS
375 ‘The woman calmed down.’
376 (Bensoukas 2009: 90; Tashelhiyt)

377

378 b. *ur thddin tmyart*
379 NEG calm.down.PFV_{NEG}.3FSG woman.FS.DS
380 ‘The woman did not calm down.’
381 (Bensoukas 2009: 90; Tashelhiyt)

382

383 (19) *ur thddn*
384 NEG calm.down.PFV.3FSG
385 ‘She did not calm down.’
386 (Bensoukas 2009: 97; Tashelhiyt)

387

388 Innovation phenomena pertaining to the preverbal negator, similar to the phenomena
389 attested in the 1a subtype, are also observed in this group, and more precisely in
390 Ghadames Berber (Libya), where the pan-Berber negator *wāl* is employed along with the
391 innovated variants *ak*, *ad*, and *awas*.¹³ The marker *ak* is the most common negator in
392 Ghadames Berber and is employed in non-prohibitive main clauses only. It occurs with
393 the negative perfective (20) or the negative imperfective (21), and to a lesser extent it also
394 occurs with the aorist preceded by *da* (22) so as to render the future tense.

395

396 (20) *ak d=yusi did=sən awadəm*
397 NEG VENT=come.PFV_{NEG}.3MSG with=3MPL person
398 ‘No one of them has come.’
399 (Bossoutrot, n.d., notebook M, p. 15; Ghadames Berber)

400

401 (21) *ak d=tettis ula yiwt did=esnet*
402 NEG VENT=come.IPFV_{NEG}.3FSG even one.FSG with=3FPL
403 ‘No one of them (f.) will come.’
404 (Bossoutrot, n.d., notebook M, p. 15; Ghadames Berber)¹⁴

405

406

¹³ About the origin of *ak*, see Brugnatelli (2014b: 170).

¹⁴ In the same notebook, one also finds the sentence *ak ittās-ed* ‘he will not come’ with a positive imperfective and without fronting of the ventive particle *-d*.

407 (22) *ak da immākñāf*
 408 NEG IRR roast.PASS.AOR.3MSG
 409 ‘It will not be roasted (quite probably).’
 410 (Lanfry 1968: 320; Ghadames Berber)

411
 412 In a sequence of negative clauses, *ak* is generally used in the first clause and *wāl* in the
 413 subsequent ones, like in (23).

414
 415 (23) *ak kām=əkfeε ās ḥiyar did mādđen*
 416 NEG 2FSG=give.PFV.1SG but best with people
 417 *wāl kām=əkfeε ās n ənnāsḥ=nnām*
 418 NEG 2FSG=give.PFV.1SG but of kin=2FSG
 419 ‘I haven’t given you away (for marriage) but to the best of people; I haven’t given
 420 you but to your kin.’
 421 (Lanfry 1968: 163; Ghadames Berber)

422
 423 Apart from its complementary distribution with the innovated negator *ak* in sequential
 424 clauses (23), the ancient form *wāl* of Ghadames Berber also occurs in subordinated
 425 clauses (24) and in the negative imperative.

426
 427 (24) *ənnan=as əkf=anaε a nnəšš žid*
 428 say.PFV.3MPL=3SG give.IMP.2SG=1PL IRR eat.AOR.1PL when
 429 *wāl ufin eur=is əčču*
 430 NEG find.PFV.3MPL by=3SG food
 431 ‘They asked him “give us (something) to eat” when they did not find food with
 432 him.’ (Bossoutrot, n.d., notebook M9, p. 40; Ghadames Berber)

433
 434 **2.2 Type 2: NEG + V/V_{NEG} + NEG**

435
 436 The majority of the Berber languages belong to this type, of which a small number make
 437 use of discontinuous negators only (subtype 2a); most languages of this group also
 438 employ a third negator (subtype 2b), which is rendered by means of specific vowel
 439 modifications of the verbal stem. Stem alternation in subtype 2b may however be absent
 440 in certain verbal forms depending on their aspectual and modal properties (see section 4).

441
 442 **2.2.1 Subtype 2a: NEG + V + NEG**

443
 444 In this subtype, the Berber languages do not take the negative verb stem after the
 445 preverbal negator with respect to every verb aspect; i.e. perfective, imperfective, and
 446 aorist. This is exceptional in Berber and up to now only attested in Western Rif Berber
 447 (also called Senhaja; Northwest Morocco) and in Nefusa Berber (Libya). In all other

448 Berber languages, the presence of a postverbal negator is usually associated with the
 449 presence of the negative stem in non-emphatic contexts. Since these language areas are
 450 under heavy influence of Arabic, which ignores negative verb stems, contact could
 451 account for this remarkable phenomenon. An example of this type of construction is
 452 displayed in (25a) for Western Rif Berber and (25b) for Nefusa Berber.

453

454 (25) a. *ud* *iffəy* *š*
 455 NEG go.out.PFV.3SG NEG
 456 ‘He did not go out.’
 457 (Lafkioui 2007: 234; Rif Berber, Senhaja)

458

459 b. *wəl* *yəmlu* *š*
 460 NEG say.PFV.3SG NEG
 461 ‘He did not say.’
 462 (Beguilot 1942: 64; Nefusa Berber)

463

464 As for Western Rif Berber (25a), frequently attested variants of the preverbal negator in
 465 this area are *ud*, *la*, *lah*, and *ula*. The latter variant is probably the result of combining the
 466 negators *u* and *la*, an amalgam which elsewhere in the Rif region usually stands for the
 467 second negator (i.e. NEG ___ *ula*), meaning ‘nothing’. As for the postverbal negator, the
 468 common variants *š* and *šay* are interchangeable in most contexts and differ in certain
 469 varieties as to the degree of expressiveness only. Concerning Nefusa Berber, it is worth
 470 mentioning that the postverbal negator may be omitted according to Beguilot’s data
 471 (1942: 191).

472

473 2.2.2 Subtype 2b: NEG + V_{NEG} + NEG

474

475 The Berber languages of this subtype do take the negative verb stem after NEG, though
 476 not necessarily for all verb aspects. The contemporary Berber verbal system displays a
 477 fundamental morphological opposition of perfective (PFV) versus negative perfective
 478 (NPFV) for the negative aspects (Basset 1952; Cadi 1987: 59-65; Chaker 1989; Galand
 479 1977; Lafkioui 2007: 174-191), as is shown in the verb phrases in (26) from Tamazight
 480 (Middle Atlas, Morocco).

481

482 (26) a. *innəḍ*
 483 interlace.PFV.3MSG
 484 ‘He is interlaced.’
 485 (Lafkioui, personal corpus; Middle Atlas Berber)

486

487

488

489 b. *ur* *inniḍ* *ša*
 490 NEG interlace.PFV_{NEG}.3MSG NEG
 491 ‘He is not interlaced.’
 492 (Lafkioui, personal corpus; Middle Atlas Berber)

493

494 A number of Berber languages also have a morphologically marked negative imperfective
 495 (Lafkioui 2018). This is the case, for example, of Berber spoken in Figuig, in the Rif area,
 496 in Ghadames, in Jerba, in Tamazret, in Ouargla, in Mzab, and in the Tuareg areas. Given
 497 its similar marking and functional procedures in a wide range of Berber languages spread
 498 over the whole of North Africa, it is most likely that the negative imperfective is a remnant
 499 of a distinctive stem in the proto-Berber verbal system (Brugnatelli 2002; Chaker 1996:
 500 18; Kossmann 1989; see section 4). The negative imperfective is generally marked by a
 501 dedicated stem vowel modification, that is, the full (unreduced) vowel *a* is changed into
 502 the vowel *i*: [*a* > *i*], like in (27) from Central Tarifit (North Morocco). But the vowel *a* is
 503 maintained in the negative imperfective when the corresponding *a* of the positive
 504 imperfective is preceded by the vowels *i* or *u*, like in (28) from the same language.

505

506 (27) a. *yättadəf*
 507 enter.IPFV.3MSG
 508 ‘He enters/he is entering’

509

510 b. *wa* *yättiḍəf* *ša*
 511 NEG enter.IPFV_{NEG}.3MSG NEG
 512 ‘He does not enter/he is not entering’
 513 (Lafkioui, personal corpus; Central Rif Berber)

514

515 (28) a. *yətmunistyar=iṭ*
 516 disturb.IPFV.3MSG=3MSG
 517 ‘He disturbs him.’

518

519 b. *wa* *ṭ=yətmunistyar* *ša*
 520 NEG 3MSG=disturb.IPFV.3MSG NEG
 521 ‘He does/will not disturb him.’
 522 (Lafkioui, personal corpus; Central Rif Berber)

523

524 Nevertheless, most of the Berber languages make use of the positive imperfective in both
 525 positive and negative configurations. In the light of these accounts and those dealt with
 526 in section 4., Berber offers counterevidence to the cross-linguistic claim that the
 527 perfective is less compatible with negation than the imperfective (Matthews 1990: 84;
 528 Schmid 1980: 39); this is in line with the findings of Miestamo and van der Auwera (2011).

529

530 **2.3 Type 3: V/V_{NEG} + NEG**

531

532 The type-3 languages are less widespread over North Africa and are limited to its fringes,
533 as is displayed in Figure 1.

534

535 **2.3.1 Subtype 3a: V + NEG**

536

537 Negation constructions with only the postverbal negator are mainly observed in Eastern
538 Berber languages, such as in Augila Berber in Libya (29).

539

- 540 (29) *akellîm iššen ká amakân*
541 servant know.PFV.3MSG NEG place
542 ‘The servant did not know the place.’
543 (Paradisi 1960a: 82; Augila Berber)

544

545 The marker *ká* negates verbs (29) as well as noun phrase predicates (30). Paradisi’s
546 (1960b) accounts show an optional but rather marginal use of the preverbal negator (*wur*,
547 *ur*, *wul*, *ul*), which seems to pertain to questions, like e.g. in (31). The available data are
548 however inconclusive; further investigation is needed.

549

- 550 (30) *wâya d azîţ ká, wâya d amédęn*
551 DEM.PROX PRDR donkey NEG DEM.PROX PRDR person
552 ‘This is not a donkey, this is a man.’
553 (Paradisi 1960a: 82; Augila Berber)

554

- 555 (31) *ur nâ=ka ká?*
556 NEG tell.PFV.1SG=2MSG.RES NEG
557 ‘Didn’t I tell you?’
558 (Paradisi 1960b: 170; Augila Berber)

559

560 On the other hand, cases of an optional omission of the preverbal negator are regularly
561 attested in Western Rif Berber (Senhaja, Northwest Morocco), for which the examples in
562 (32) account.

563

- 564 (32) a. *iffay š*
565 go.out. PFV.3MSG NEG
566 ‘He did not go out.’
567 (Lafkioui 2007: 234–235; Rif Berber, Senhaja)

568

569

570 b. *ud iffəy š*
 571 NEG go.out.PFV.3MSG NEG
 572 ‘He did not go out.’
 573 (Lafkioui 2007: 234–235; Rif Berber, Senhaja)

574
 575 c. *ša iffəy š*
 576 IRR go.out.AOR.3MSG NEG
 577 ‘He will not go out.’
 578 (Lafkioui 2007: 234–235; Rif Berber, Senhaja)

579
 580 Constructions with just the postverbal negator are generally compulsory when the verb is
 581 preceded by certain preverbs, such as *ša* (marker of future/irrealis), as is shown (32c).

582
 583 **2.3.2 Subtype 3b: V_{NEG} + NEG**

584
 585 Sened Berber in Tunisia makes use of both a postverbal negator and negative verb stems,
 586 such as in (33b).

- 587
 588 (33) a. *inya*
 589 kill.PFV.3MSG
 590 ‘He killed.’
 591
 592 b. *inyi š*
 593 kill.PFV_{NEG}.3MSG NEG
 594 ‘He did not kill.’
 595 (Provotelle 1911: 147; Sened Berber)

596
 597 The loss of the preverbal negator would have taken place in Sened Berber in relatively
 598 recent times, as this negator was formerly recorded by Basset (1890: 58, 103). Yet
 599 Provotelle (1911: 126) points out that he did not find the discontinuous negators *u___ š*
 600 and *ur___ š* in the area indicated by Basset.

601 In some languages of this group, such as Zuara Berber (Libya), the preverbal negator
 602 may be dropped freely, which is exemplified in (34b).

603
 604

- 605 (34) a. *yəflá*
 606 go.PFV.3MSG
 607 ‘He went.’
 608
 609 b. *yəfli* *š*
 610 go.PFV_{NEG}.3MSG NEG
 611 ‘He did not go.’
 612 (Mitchell 2009: 100; Zuara Berber)

613

614 2.4 Overview of the synchronic standard negation types

615

616 In the light of the synchronic findings discussed in sections 2.1 to 2.3, Table 1 presents
 617 an overview of the synchronic “standard verbal sentential negation” types in a sample of
 618 Berber languages with their respective markers, including variants which may occur in
 619 free or conditioned alternation.

620

Table 1. Overview of the synchronic “standard verbal sentential negation” types in Berber with a sample of languages and their respective markers (¹rare, ²suprasegmental markers only, ³relics of IPFV in old poems and expressions, ⁴frequent but may be optional, ⁵lack of postverbal negator in most of the Southern varieties).

621

	Language	Preverbal NEG	Postverbal NEG	Infixal NEG
TYPE 1	Siwa Berber	<i>la, l</i>	∅	∅
	Sokna Berber	<i>(i)ngi, ənk(i), la, ul</i>	∅	∅
	El-Fogaha Berber	<i>nk</i>	∅	∅
	Yefren Berber	<i>mi</i>	∅, <i>š</i> ¹	∅
	Nefusa Berber	<i>wəl</i>	∅	∅
	Ouargla Berber	<i>u, ul</i>	∅	PFV, IPFV
	Mzab Berber	<i>u, wəl</i>	∅	PFV, IPFV
	Ghadames Berber	<i>ak, wāl</i>	∅	PFV, IPFV
	Tuareg Berber	<i>wər, wǎr</i>	∅	PFV, IPFV
	Tetserret	<i>wər</i>	∅	PFV ² , IPFV
	Tachelhiyt	<i>ur</i>	∅	PFV ³
	Zenaga Berber	<i>wär</i>	∅	PFV, IPFV
TYPE 2	Nefusa Berber	<i>wəl</i>	<i>ši, š</i>	∅
	Jerba Berber	<i>wə, wəl</i>	<i>š</i>	PFV, IPFV
	Aures Berber	<i>ud, u, la, lah</i>	<i>ša</i>	PFV, IPFV
	Kabyle	<i>wər, ur</i>	<i>ara, ani</i>	PFV ³
	Figuig Berber	<i>ul</i>	<i>šay</i> ⁴	PFV, IPFV
	Tamazight	<i>ur</i>	<i>ša, ka, ∅</i> ⁵	PFV
	Eastern and Central Tarifit	<i>ur, u, war, wa</i>	<i>ša, š, šay, ši, šiy, bu</i>	PFV, IPFV
	Western Tarifit (Senhaja)	<i>u⁴, ud⁴, la⁴, ula⁴, lah⁴</i>	<i>š, šay</i>	∅
TYPE 3	Augila Berber	∅, <i>(w)ur</i> ¹ , <i>(w)ul</i> ¹	<i>ka, k(i)ra</i>	∅
	Western Tarifit (Senhaja)	∅	<i>š, šay</i>	∅
	Zuara Berber	∅, <i>wə</i> ⁴	<i>š</i>	PFV, IPFV
	Sened Berber	∅	<i>š</i>	PFV

622

623 3 Negation from a diachronic and typological perspective

624

625 Certain similarities between the negative structures of contemporary North-African
626 Arabic varieties and those of the Berber languages has prompted scholars to explore the
627 question of the origin of discontinuous negators as a contact-induced phenomenon:

628 “The fact that those varieties of Arabic and Berber which have reached stage II or III
629 of JC are spoken in largely the same geographical area raises the question of whether
630 the stage II construction was spread from one language to the other via contact, and, if
631 so, which was the source and which the target language as far as this structure is
632 concerned.” (Lucas 2007: 401)

633

634 It is difficult to come to a clear-cut solution, given the lack of material from the earliest
635 stages of spoken Arabic and Old Berber. For this reason, Lucas’ suggestion that, in Berber,
636 Stage II “developed under the influence of Arabic” (Lucas 2013: 402) is not conclusive
637 (see also Lafkioui 2013a for a critical discussion of Lucas’ hypothesis). The main reason
638 put forward concerns the areal distribution, which he considers “consistent with a gradual
639 spread westwards and southwards of the cycle in the local contact varieties of Arabic”
640 (Lucas 2013: 413).

641 However, the areal distribution of the variants, which shows a huge homogeneous core
642 area with triple negation, surrounded by smaller and heterogeneous peripheral areas with
643 single preverbal negation, contradicts Lucas’ claim and clearly points to the opposite
644 reading, that is, in terms of the loss of a redundant feature (i.e. NEG2) in peripheral areas
645 (see Figure 1 above). Indeed, this geolinguistic diffusion of Berber negation patterns also
646 structurally matches other instances of a loss of a redundant feature in the peripherally
647 located languages, such as, for instance, the noun state opposition. Both the easternmost
648 Siwa Berber and the westernmost Zenaga Berber no longer possess state opposition in
649 nouns, but this alone does not justify the straightforward assumption that this is an
650 innovation they never shared with the other Berber languages. As a matter of fact,
651 toponomical relics account for a former noun state opposition in those languages which
652 are devoid of it nowadays (Brugnatelli 1987b).

653 Furthermore, the presence of NEG2 in Ancient Ibāḍī Berber (tracing back to 11th-16th
654 century), in both the more archaic form *-šra* and the phonetically reduced one
655 *-š* (Brugnatelli 2014b), is consistent with viewing it as an ancient construction that is
656 disappearing, rather than as a lately developed innovation.

657 Another important counter-argument to Lucas’s claim is that those languages which
658 nowadays only use the preverbal negator (those belonging to the type-1a and one variety
659 of the type-1b) have at least innovated their preverbal negators – termed here as NEG4 –
660 with respect to the ancient pan-Berber negator **wār/wāl*. This makes it difficult to regard
661 these languages as “conservative” – as suggested by Lucas (2013: 411) – and to
662 corroborate in this way the assumption that the use of a preverbal negation pattern is an
663 archaic feature.

664 Moreover, the data provided by Diem (2014) clearly show that Arabic negation has
 665 developed double-marking starting from the 11th century onwards, and hence much later
 666 then its first contacts with Berber in the 7th century. Consequently, it is problematic to
 667 assume that Berber has developed double negation marking on such a large scale by
 668 contact with Arabic, given that it probably goes back to very ancient stages of Berber. On
 669 the contrary, it is more reasonable to regard Berber as a substrate in the development of
 670 double negation in North African Arabic.

671 The influence of Arabic can be seen rather as a stimulus to preserve NEG2 in the
 672 Berber languages in which it had become similar to the Arabic equivalent *-š(i)* (and
 673 variants), while most of the languages where NEG2 did not undergo a palatalisation of
 674 the ancient Berber velar **k* (e.g. Berber **kra* > *šra/ša/š*, with *š* occurring in both Berber
 675 and Arabic) have lost it (Brugnatelli 1987a: 58, Galand 1994).

676
 677 Other motivations that account for the evolution of [NEG1 + V/V_{NEG3} + NEG2] >
 678 [NEG1 + V] in Berber, especially in those languages that innovated NEG1, concern
 679 economy, the NEG-first principle, and semantic bleaching, and are discussed in what
 680 follows.

681

682 3.1 Economy

683

684 As economy is already part of a standard JC, a double or threefold marking of negation
 685 is redundant and one can expect that standard negation tends to drop one of the markers.
 686 Berber provides abundant evidence for this principle. For instance, in Tashelhiyt (South
 687 Morocco), where negation is marked by [NEG1 + V_{NEG3}], the aspectual opposition of
 688 positive versus negative stem is undergoing neutralisation in favour of positive forms, as
 689 in (35).

690

691 (35) a. *ur ifti*
 692 NEG1 go.away.PFV_{NEG3}.3MSG
 693 ‘He has not gone.’

694

695 b. *ur ifta*
 696 NEG1 go.away.PFV.3MSG
 697 ‘He has not gone.’
 698 (El Mountassir 2003: 11; Tashelhiyt)

699

700 Economy here operates at the paradigmatic level, wherein the negative perfective has lost
 701 its markedness in favour of the unmarked perfective, hence simplifying the complexity
 702 of the verbal inflectional system of Tashelhiyt Berber.

703 In the Berber languages, economy may entail the loss of one or two of the three
 704 negators: the loss of NEG2 leads to type-1, that of NEG1 leads to type-3, and that of

705 NEG3 leads to subtypes 1a, 2a, and 3a (see Table 1 above). The Berber languages are
 706 thus evolving towards simpler negation systems, which is in line with the general
 707 typological tendency to favour simplicity by means of single exponence mechanisms (van
 708 der Auwera and Krasnoukhova Forthcoming).

709

710 3.2 The NEG-first principle

711

712 The so-called NEG-first principle traces back to Jespersen (1917: 5) and has been
 713 corroborated by several studies, such as Dahl (2010: 23), who sums up as follows what
 714 has been observed in the languages of the world in this regard : “Thus, judging from the
 715 figures in Dryer (1988), negators are placed either directly before or directly after the verb
 716 in 80–90 percent of all cases, and in both VO and OV languages, syntactic negators
 717 overwhelmingly precede verbs, the ratio between preverbal and postverbal placement
 718 being something like 3:1 in a hypothetical ideal sample.”

719 Accordingly, even if the best known examples of the Jespersen Cycle, like French
 720 negation, usually start from a stage with preverbal negators and lead up to a postverbal
 721 negation construction, one can expect that the NEG-first principle counteracts the
 722 outcome in some way. As a matter of fact, English, another language which underwent
 723 the Jespersen Cycle, is about to come back to a stage with [NEG1 + V], since the “new”
 724 negator *don't / doesn't* currently precedes the verb (Anderwald 2002: 151-170). As is
 725 well known, this new form in English is the result of a transformation of stage [V + NEG2]
 726 into [AUX-NEG2 + V] by means of a generalization of the latter construction with the
 727 auxiliary preceding the main uninflected verb. This case of diachrony in English negation
 728 clearly shows how the NEG-first principle comes into effect.

729 Some of the Berber innovated negators of the [NEG4 + V] type could be regarded as
 730 the outcome of similar periphrastic constructions, as in the cases illustrated in (36) and
 731 (37), the former being a reproduction of example (6) from section 2.1.1.

732

733 (36) *zēmân ellân mār ingî isél dē lahl=éennes am nētta*
 734 once be.PVF.3MPL man NEG1 hear.PFV.3MSG and wife=3SG like 3MSG
 735 ‘Once upon a time, there was a man who could not hear (he was deaf) and his wife
 736 who was like him.’
 737 (Sarnelli 1924–25: 32; Sokna Berber)

738

739 (37) *wargey ad əqqəlāy ayiwān*
 740 NEG1 IRR return.AOR.1SG encampment
 741 ‘It will not be (the case) that I return to the camp.’
 742 (Prasse 2003: 832; Tuareg Berber)

743

744 The negator (*i*)ngi in (36) probably relates to *wargi/wargey* in Tuareg Berber, which orig-
 745 inates from the frozen phrase *wer igi* ‘it is not...’ (pan-Berber negator + negative form of

746 the verb *igu* ‘do, be’, i.e. NEG1 + V_{NEG3}; Prasse 1972: 245) and which usually negates
 747 noun phrase predicates and nominalised constructions, as in (37). In this regard, Sokna’s
 748 (*i*)*ngi* (as in 36) would be related to the former participial construction **(wər) ngi*, which
 749 corresponds to a cleft sentence signifying ‘it-is-not-that...’ and which goes with a positive
 750 verb stem. This kind of construction can be viewed as a stage of the so-called “negative
 751 existential cycle”, which is “a diachronic cycle in which distinct negative existential
 752 markers arise, and are subsequently used to indicate verbal negation, displacing the orig-
 753 inal verbal negator” (Croft 1991: 13). It proves that there are Berber languages where the
 754 use of negative existential markers is extended to standard negation (type C of Croft’s
 755 Cycle), contrary to what is stated in Veselinova (2016: 147, 150, 159), who limits the
 756 Berber negation typology to type A, which has “no distinction between verbal and exist-
 757 tential negation” (p. 159), to type A-B, where “a distinction exists, but the negative exist-
 758 tential is restricted to the present tense” (p. 159), and to type B, in which “verbal and
 759 existential predications are negated by well delimited strategies” (p. 159). These different
 760 existential negation types are beyond the scope of the article, which focuses on declarative
 761 verbal negation.

762

763 3.3 Semantic bleaching

764

765 A final option that may explain dropping NEG2 has to do with the generalization and
 766 bleaching of formerly “emphatic” negation forms. Double negation marking that once
 767 may have come into being because of the discursive need for “emphatic” expressions by
 768 adding a NEG2 negator may have become a means for expressing standard negation due
 769 to semantic bleaching, as is understood by Meillet (1912), which is echoed in van der
 770 Auwera (2009). Berber provides abundant evidence for this principle (see all negation
 771 types having NEG2 in section 2).

772 Other cases involving semantic bleaching concern the tendency in certain Berber
 773 languages to drop NEG2 when the verb predicate is not positioned at the end of the
 774 sentence, like in (38a) from Tamazight (Central Morocco), whereas in a sentence-final
 775 position, like in (38b), NEG2 is usually kept when it conveys standard negation.

776

777 (38) a. *ur* *iddi* *uryaz*
 778 NEG1 go.PFV_{NEG3.3MSG} man
 779 ‘The man didn’t go.’

780

781 b. *ur* *iddi* *ša*
 782 NEG1 go.PFV_{NEG3.3MSG} NEG2
 783 ‘He didn’t go.’

784 (Penchoen 1973: 60; Tamazight)

785

786 These cases account for the grammaticalisation – hence semantic bleaching – of NEG2
 787 into a kind of dummy placeholder in standard negation, when occurring at the end of the
 788 sentence (38b), where it does not convey any extra discursive meaning.

789

790 3.4 Discussion

791

792 In most of the Berber languages, NEG2 goes together with NEG3 (triple negation), i.e.
 793 ancient negative stem markers. Certain languages no longer display this complex triple
 794 negation system and have come back to a double or even a single negator. This is
 795 motivated by a number of parameters, among which economy, the NEG-first principle,
 796 and semantic bleaching. The economy principle constantly pushes the system to have as
 797 little redundancy as possible. This principle, combined with the NEG-first principle,
 798 which pulls negators to the sentence-initial position, ideally ends up with just a preverbal
 799 negator and hence back to Stage I of the JC. But there are also cases in Berber in which
 800 all the negation force is accumulated in NEG2 (sustained by accentuation), while NEG1
 801 undergoes phonetic weakening (disaccentuation) before its complete disappearance
 802 (Stage III of the JC), which matches the economy principle but not the NEG-first principle,
 803 though.

804

805 The following Table 2 gives an overview of the different negation stages which the
 806 Berber languages have probably gone through and which we consider to be extensions of
 807 the Jespersen Cycle. Note that stages 0 to 2 are reconstructed and therefore not attested,
 808 which in the corresponding synchronic typology column is indicated by blanks. Stages 4,
 809 4', and 4'' are developed out of stage 3, whereas stage 5 stems from stages 4 and 4'', and
 810 stage 5' from 4'.

811

812 **Table 2.** The Extended Jespersen Cycle for Berber (sample sentence: ‘He did not plough.’)

Stage	Pattern	Example	Type
0	NEG-AUX + V	* <i>w</i> + * <i>r</i> <i>yəkrəz</i>	---
1	NEG1 + V	* <i>wər</i> <i>yəkrəz</i>	---
2	NEG1 + V + NEG2	* <i>wər</i> <i>yəkrəz</i> * <i>kira</i>	---
3	NEG1 + VNEG3 + NEG2	<i>wər</i> <i>yəkriz</i> <i>kra/ša</i>	2b
4	NEG1 + V + NEG2	<i>wər</i> <i>yəkrəz</i> <i>kra/ša</i>	2a
4'	NEG1 + VNEG3	<i>wər</i> <i>yəkriz</i>	1b
4''	VNEG3 + NEG2	<i>yəkriz</i> <i>kra/ša</i>	3b
5	V + NEG2	<i>yəkrəz</i> <i>kra/ša</i>	3a
5'	NEG1 + V	<i>wər</i> <i>yəkrəz</i>	1a

813

814 For the sake of intelligibility, the in-between stages – including the stages with optional
 815 negators, such as e.g. NEG1 + V + (NEG2) – are not displayed in Table 2. It should also
 816 be mentioned that not all Berber languages have necessarily undergone the stages of this

817 Berber JC. Moreover, the morphosyntactic and semantic traits of the negators involved
818 may have altered from one stage to another.

819 The negation stages in Table 2 may also overlap in one and the same language, which
820 is the case, for instance, in Rif Berber (North, Northeast, and Northwest Morocco), which
821 accounts for the predominant stage three negation (triple negation) as well as for the
822 exceptional stages 4 (double negation) and 5 (single postverbal negation), which are
823 merely attested in the western part of this language continuum (Senhaja Berber).

824

825 It is also worth highlighting that, apart from the Extended JC in Table 2, the Berber
826 language family also possesses a negative cycle which has NEG4 in its final stage. This
827 latter negator is distinct from the proto-Berber negator **wər* and is mostly innovated by
828 means of grammaticalisation of Berber material of various kinds, including existentials,
829 such as the negator *(i)ngi* (< **(wər) ngi* ‘it-is-not-that...’ < **wer igi* ‘it is not...’), discussed
830 in section 3.2 (examples 36–37). This particular preverbal single negation construction
831 with *(i)ngi* also testifies to the expansion of existential negation marking upon standard
832 negation (type C of Croft’s Cycle; Croft 1991:6). As a matter of fact, existential negators
833 such as *(i)ngi* have been fully grammaticalised and function as new standard negators in
834 Berber, which means that they have been subject to the following diachronic
835 developments:

836

837 (39) [NEG-standard = NEG-existential] > [NEG-standard ≠ NEG.EX-existential] >
838 [NEG.EX-standard = NEG.EX-existential] > [NEG-standard = NEG-existential]

839

840 Accordingly, Berber provides accounts for the remarkable phenomenon of an intricate
841 and continuously innovating cyclical system, made up of (at least) a JC and an existential
842 negation cycle. This kind of complex negation system questions certain reductive
843 concepts and categorisations regarding the typology and dynamics of negation (i.e. the
844 concept of weakening, the separation of the JC from other negative cycles) and may call
845 for adjustments and redefinitions, as is argued in van der Auwera et al. (Forthcoming).

846

847 Regarding stages 4’ and 5’ of the Extended Berber JC and the particular NEG4 stage
848 of the other Berber negative cycle, there is the phenomenon in which NEG2 is dropped
849 in standard negation so as to mark emphasis. This phenomenon is typologically
850 uncommon, as the expression of emphatic negation, which is a universal feature, is
851 generally conveyed by including certain (negative) elements, like adverbs and particles,
852 rather than by deleting them (Kiparsky and Condoravdi 2006: 7). This strategy of NEG2-
853 dropping may have played a role in the development of the preverbal negatives of stages
854 4’ and 5’ of the Berber JC and of the stage with NEG4, as will be shown in what follows.

855

856

857 (40) *win yərran iman=is d ət̪taləb, ur yəyri*
 858 who put.PFV.PTCP self=3MSG PRDR doctor NEG1 read.PFV_{NEG3}.3MSG
 859 ‘The one who pretended to be a doctor and could not even read.’
 860 (Ben Sedira 1887: 188; Kabyle Berber)

861

862 In this example, it is the absence of NEG2 that allows for an emphatic reading of the
 863 negative utterance, expressed in English by means of ‘not even’, whereas its non-
 864 emphatic counterpart would also have the postverbal negator *ara*.

865 Another example from Kabyle which clearly displays the difference produced by the
 866 presence versus absence of NEG2 is given in (41).

867

868 (41) a. *tawTuf̥t ur t̥=nyiy*
 869 ant.FSG NEG1 3FS=kill.PFV.1SG
 870 ‘I was incapable to kill even an ant.’

871

872 b. *tawTuf̥t ur t̥=nyiy ara*
 873 ant.FSG NEG1 3FS=kill.PFV.1SG NEG2
 874 ‘The ant, I did not kill it.’

875 (Mettouchi 2001: 218; Kabyle Berber)

876

877 In (41a), the negation is absolute and implies that the speaker excludes the possibility of
 878 killing anything, even an ant, in the past or in the future, while in (41b) the negation is
 879 limited to one event and does not exclude the possibility that in the past or in the future
 880 other ants could have been or will be killed. Mettouchi (2001) explains this difference in
 881 terms of “prototypical” (without *ara*) vs “specific” (with *ara*) negation, which may be the
 882 case in the context at hand, but it is not a general rule. In fact, the semantic implications
 883 of dropping NEG2 are more complex in Kabyle and in Berber in general, as is displayed
 884 in (42) and (43) from Kabyle, extracted from the tales of Auguste Mouliéras (1893–1895).

885

886 (42) *ay yəf aydi ur itətt ara aḵsum n wuššən*
 887 what on dog NEG1 eat.IPFV.3MSG NEG2 meat of jackal.MSG.DS
 888 ‘The reason why the dog does not eat jackal meat.’
 889 (Mouliéras 1893–1895: 247, title of the tale; Kabyle Berber)

890

891 (43) *a nmaəhaḍ nək id=ək : win yufan wayəḍ,*
 892 IRR make.a.pact.AOR.1PL 1SG with=2MSG who find.PFV.PTCP other.MSG
 893 *ur t̥=ičči*
 894 NEG1 3MSG=eat.PFV_{NEG3}.3MSG
 895 ‘Let us make a pact: the one who finds the other will not eat him.’
 896 (Mouliéras 1893–1895: 247, in the body of the text; Kabyle Berber)

897

898 Compared to (41), these examples present an inverted distribution: sentence (42), which
 899 contains NEG2, refers to something “prototypical” (any dog, any jackal), while sentence
 900 (43), which lacks NEG2, is very “specific” (the actual participants). Consequently, it is
 901 not the opposition of prototypical versus specific that is implied here but rather the degree
 902 of “emphasis” put on the negation.

903 The same phenomenon is also observed in other Berber languages, like in Zuara
 904 (Libya), to which (44) testifies. The comment “more emphatic” following the translation
 905 is given by Mitchell himself.

906

907 (44) a. *w yár=i matt(a) a k=úšəy*
 908 NEG1 by=1SG what IRR 2MSG=give. AOR.1SG
 909 ‘I have nothing to give you.’ (more emphatic)

910

911 b. *w yər=i š matt(a) a k=úšəy*
 912 NEG1 by=1SG NEG2 what IRR 2MSG=give. AOR.1SG
 913 ‘I have nothing to give you.’
 914 (Mitchell 2009: 105; Zuara Berber)

915

916 Again the examples prove that dropping NEG2 is a strategy of marking emphatic negation
 917 in various Berber languages.

918 In the light of these findings, NEG2-dropping, which conveys emphatic negation in
 919 those Berber languages where standard negatives contain NEG2, may be regarded as a
 920 competing pragmatic strategy that caused a complete deletion of NEG2 in the languages
 921 of stages 4’ and 5’ of the Extended Berber JC and of the stage with NEG4. Standard
 922 negation in stage 5’ would have been brought back to the starting point of the Berber JC,
 923 with only the preverbal negator as the overt negator, as a consequence of the bleached
 924 value of NEG2-dropping as an emphatic marker.

925

926 Apart from these cyclical diachronic developments of the negation system in the
 927 Berber languages, this study also provided some other typologically significant outcomes,
 928 such as the fact that Berber is profoundly and variously “asymmetric” (as understood by
 929 Miestamo 2005: 7–10), especially when it comes to its paradigmatic structures. Although
 930 it is not our intention here to systematically verify Miestamo’s cross-linguistic typology
 931 by means of the Berber data, which would be out of the scope of the article, our findings
 932 point to the A/Cat/TAM type as the predominant negation type in Berber.

933 It is also worth mentioning that Miestamo’s analysis and classification of Tamazight
 934 Berber (Central Morocco) as A/Fin/NegVerb is questionable in different respects, the
 935 main ones being: 1) the pan-Berber negator *ur* has no element of finiteness in itself, and
 936 hence cannot be regarded as a FE (finite element), and 2) the negative verb does not lose
 937 any property of finiteness while negated and keeps most of the morphosemantic features
 938 of the positive verb (i.e. markers of subject and TAM) as well as the potential of governing

939 a direct object. The only apparent loss concerned here is the distinction between the
940 unmarked stem (the aorist) and the marked stem (the imperfective), which makes it a case
941 of paradigmatic asymmetry.

942 A final typologically important result of our research is that there are Berber languages
943 which have undergone a shift from asymmetric to symmetric standard negation for certain
944 verb aspects. Indeed, in quite a number of Berber languages, the negation of the
945 imperfective constructions has become entirely symmetric (Lafkioui 2018), which means
946 that these negatives are distinct from their affirmative counterparts by the presence of
947 overt negators only. Moreover, in certain Berber languages, such as Tashelhiyt (South
948 Morocco), for instance, even the negative perfective has been affected by a neutralisation
949 of its opposition with the positive perfective in certain local varieties, which implies that
950 symmetric negation is expanding all upon the negation system of this language.

951

952 In the next section, we will examine in detail the origin of NEG3 (i.e. negative verb
953 stem alternations) and will argue that the dedicated morphophonetic mechanisms behind
954 its creation are a vital source for generating new negators.

955

956 **4 On the origin of NEG3**

957

958 The existence of negative verb stems in almost all Berber languages could be viewed in
959 itself as a pan-Berber strategy of double-marking the negation, as noted by Lafkioui
960 (2013a), in accordance with Schmitt-Brandt (1979: 235). The fact that such forms
961 probably derived from elements placed towards the right end of the verbal complex, under
962 the influence of a postverbal negative element, strengthens the hypothesis that Berber
963 achieved Stage II of the Jespersen Cycle in very ancient times, earlier than any contact
964 with Arabic, and for which evidence will be provided in what follows.

965 A decisive argument in favour of a very early twofold negator stage across the whole
966 Berber area derives, in our opinion, from the wide diffusion of negative stems in the
967 verbal systems. Negative stems are seldom used alone without negation particles or
968 adverbs, yet their negative value is indisputable and in some (rare) cases they may be the
969 only device to convey negation, as is displayed in next examples from Kabyle (North
970 Algeria):

971

972 (45) a. *mazal yettes*
973 still sleep.PFV.3MSG
974 “He is still sleeping”

975

976 b. *mazal yettis*
977 still sleep.PFV_{NEG3}.3MSG
978 “He is not yet sleeping”

979 (Dallet 1982: 530; Kabyle Berber)

980 The most widespread form is the negative perfective, which appears in nearly all the
 981 Berber languages, while the negative imperfective is less generalized but nonetheless
 982 scattered across the whole area and should probably also be considered a common form.
 983 This is further confirmed by the fact that the negative imperfective is attested in ancient
 984 texts, even in areas in which it is not currently in use, as in Old Tashelhiyt (46) – which
 985 is of the 1b type – and in old poems and riddles from Kabyle (47), which is of the 2b type:

986

987	(46)	AOR	IPFV	NIPFV	
988		<i>fsd</i>	<i>tfsad</i>	<i>tfsid</i>	‘to corrupt’
989		<i>ḍr</i>	<i>ṭtar</i>	<i>ṭtir</i>	‘to fall’
990		<i>af</i>	<i>ttafa</i>	<i>ttifi</i>	‘to find’
991		<i>kkas</i>	<i>tkasa</i>	<i>tkisi</i>	‘to inherit’

992 (Mḥmmd Awzal, 18th century; van den Boogert 1997: 270; Old Tashelhiyt)

993

994	(47)	AOR	IPFV	NIPFV	
995		<i>ban</i>	<i>tban</i>	<i>tbin</i>	‘to come into view’
996		<i>ttudəggər</i>	<i>ttudəggar</i>	<i>ttudəggir</i>	‘to be pushed, shoved’

997 (Old poems and traditional riddles; Brugnatelli 2002: 166; 2006: 69; Kabyle
 998 Berber)

1000 Both perfective and imperfective stems undergo similar modifications in the negative
 1001 form. These changes can be summarised as follows:

- 1002 1) Vowel fronting (*a* > *e/i* and *ǎ* > *ə/e*)
 1003 2) Shortening of the first vowel
 1004 3) Lengthening of the last vowel

1005
 1006 In general, shortening and lengthening of the vowels is detected in Tuareg Berber only,
 1007 since the other Berber languages usually do not distinguish between short and long vowels
 1008 (except Rif Berber). In the latter languages, negative forms often take a full vowel *i*
 1009 instead of \emptyset or schwa of the positive counterparts.¹⁵ Vowel fronting is thus a general rule
 1010 and affects the negative stems in all languages, as is shown in next examples from Tuareg
 1011 Berber (48), and from Jerba Berber (49):

1012

1013	(48)	PFV	NPFV	IPFV	NIPFV	
1014		<i>ikrās</i>	<i>ikres</i>	<i>ikârrās</i>	<i>ikərrəs</i>	‘to knot’
1015		<i>ilsa</i>	<i>ilse</i>	<i>ilâss</i>	<i>iləss</i>	‘to wear’
1016		<i>ibbərāg</i>	=	<i>itâbărâg</i>	<i>itəbəriḡ</i>	‘to show off’

1017 (Brugnatelli 2002; Tuareg Berber)

¹⁵ On the vowel changes of the negative perfective and of the resultative in Tuareg Berber, see Brugnatelli (2005: 376–378).

1019	(49)	PFV	NPFV	IPFV	NIPFV	
1020		<i>yəzwa</i>	<i>yəzwi</i>	<i>izugga</i>	<i>yəzuggi</i>	‘to go down’
1021		<i>yəbbəs</i>	<i>yəbbis</i>	<i>yətbəssa</i>	<i>yətbəssi</i>	‘to be switched off’
1022		<i>yəwəʔ</i>	=	<i>yəččəʔ</i>	<i>yəččīʔ</i>	‘to strike’
1023		(Brugnatelli 2002; Jerba Berber)				

1024

1025 From a diachronic perspective, these forms are explained as the result of phonotactic
 1026 changes involving the final part of the stem under the influence of a suffixed negative
 1027 particle. The left-to-right stress shift would account for the shortening of the initial vowels
 1028 and the lengthening of the final ones as well as for the fronting of the final vowels as a
 1029 consequence of umlaut, assuming that the original particle contained front vowels
 1030 (palatalisation).

1031 An interesting parallel comes from the Arabic dialects of Egypt (Dakhla Oasis), in
 1032 which negative verbal forms have arisen from positive ones, displaying a vocalic
 1033 difference most likely provoked by “consonant clustering and heavy syllable formation”
 1034 (Woidich 1995–97), due to the affixation of NEG2, as is shown in the Egyptian Arabic
 1035 examples in (50).

1036

1037 (50) a. Western dialects:
 1038 *iːgo:m* > ***ma-tiːga:m-š***
 1039 ‘Speak Cairene!’ > ‘Do not speak Cairene!’

1040

1041 b. Central dialects:
 1042 *sɪːa:n* > ***ma-sɪːin-š*** / ***ma-sɪːe:n-š***
 1043 ‘He asked’ > ‘He did not ask’
 1044 (Woidich 1995–97: 15; Egyptian Arabic)

1045

1046 It should be noted that stem vowel alternations in negation constructions usually affect
 1047 verbs only. Noun phrase predicates, on the other hand, are negated by means of markers
 1048 preceding the predicate when attributive values are conveyed, such as in the negation
 1049 structures from Central Rif Berber (North Morocco) in (51).

1050

1051 (51) a. *d* *ašəmrar*
 1052 PRDR white
 1053 ‘It is white.’

1054

1055 b. *urid* *ašəmrar*
 1056 NEG1.PRDR white
 1057 ‘It is not white.’

1058

1059

- 1060 c. *uǧi* *d* *ašəmrar*
 1061 NEG1 PRDR white
 1062 ‘It is not white.’
 1063
 1064 d. **ur* *d* *ašəmrar* *ša*
 1065 NEG1 PRDR white NEG2
 1066 ‘It is not white.’
 1067 (Lafkioui, personal corpus; Rif Berber)
 1068

1069 Configurations with a double negation marker like in (51d) are ungrammatical. On the
 1070 other hand, vowel modification may appear in certain negative quasi-verb constructions
 1071 when existential values are expressed. Such predicates are particular in that they generally
 1072 behave like verbs, and are therefore called “quasi-verbs” (Lafkioui 1999: part II, 2011:
 1073 43–55). Among these quasi-verb constructions, those with a preposition as a predicate
 1074 may undergo stem vowel alternations in certain languages when they are negated by
 1075 means of NEG1__NEG2 and when they signify ‘to have’, as in (52) extracted from a 19th
 1076 century religious poem from Jerba (Tunisia). This remarkable phenomenon is of
 1077 relevance to our discussion about the origin of NEG3, because it shows that the same
 1078 triggering mechanism behind negative stem alternations in verbs has been at work in these
 1079 quasi-verbal (prepositional) constructions; i.e. the postposition of a negator has triggered
 1080 the same phonetic change (> *i*) with the same function of negation marking.
 1081

- 1082 (52) a. *ɣər=s*
 1083 by=3SG
 1084 ‘He has.’
 1085
 1086 b. *wə* *ɣr=is* *š*
 1087 NEG1 by=3SG NEG2
 1088 ‘He has not.’
 1089 (Brugnatelli 2014b: 179; Jerba Berber)
 1090

1091 The full vowel *i* in the negative (52b), developed under the influence of the enclitic
 1092 negator, probably results either from the retention of an ancient vocalism, which is
 1093 reduced in unstressed position, or from the former presence of anterior sounds in NEG2.
 1094 In any case, the most noticeable outcome is the position change of the accent triggered
 1095 by the apposition of NEG2, which is exemplified in example (53) from Zuara (Libya),
 1096 which retakes example (44).
 1097

- 1098 (53) a. *w* *ɣər=i* *matt(a)* *a* *k=úšəɣ*
 1099 NEG1 by=1SG what IRR 2MSG=give. AOR.1SG
 1100 ‘I have nothing to give you.’ (more emphatic)

1101 b. *w* *ɣər=i* *š* *matt(a)* *a* *k=úšəy*
 1102 NEG1 by=1SG NEG2 what IRR 2MSG=give. AOR.1SG
 1103 ‘I have nothing to give you.’
 1104 (Mitchell 2009: 105; Zuara Berber)

1106 In spite of the strong evidence in favour of a morphophonetic origin of the negative verb
 1107 stems, some scholars still share the idea of Picard (1957) according to which the negative
 1108 perfective represents a sort of “intensive” form of the perfective (“*prétérit intensif*”). In
 1109 the same line of thought, Chaker (1996: 18) stated that it was “a former intensive form
 1110 which must have been used in environments strongly characterised by modality: negative
 1111 statements (prohibition), wishes, unreal hypotheses, etc” [our translation]. But the
 1112 empirical data contradict this view. As pointed out by Brugnatelli (2002: 171), the
 1113 negative perfective is absent when modality is heavily involved, such as in wishes
 1114 (optative) and oaths, for which Berber uses [*a *wər/wəl* + aorist] and [*ma* (or equivalents)
 1115 + positive perfective], respectively, without NEG₂, as is exemplified in (54) from Rif
 1116 Berber (Senhaja), where negation is marked by the conditioned variant *ma* ___ \emptyset or its
 1117 free variants like *ka* ___ \emptyset .

1118
 1119 (54) a. *wəllah ma skurksəy!*
 1120 by God NEG1 lie.PFV.1SG
 1121 ‘By God, I did not lie!’

1122
 1123 b. *wəllah ka skurksəy!*
 1124 by God NEG1 lie.PFV.1SG
 1125 ‘By God, I did not lie!’
 1126 (Lafkioui 2007: 234; Rif Berber, Senhaja)

1127
 1128 This kind of constructions are counterfactual conditionals, in which the negative clause
 1129 forms the protasis with the conjunction “if” as the negator, while the apodosis, which
 1130 conveys a meaning like e.g. “may I be damned”, is implied.

1131 The counterfactual conditional is the only context in which the negative perfective may
 1132 occur outside a negation configuration. Therefore, it is not surprising that some of these
 1133 constructions are introduced by amalgamated connectives containing the negative particle
 1134 **wər/wəl*, such as the Tashelhiyt form *m-ur* (‘if’, ‘when’), and possibly also the Kabyle
 1135 form *lemmer* (‘if’, ‘when’). The use of negative forms of the verb in counterfactual
 1136 conditionals is a phenomenon parallel to what is recorded in Ungarinjin (Australian
 1137 language), where the irrealis of the verb appears to stem from a former negative form
 1138 (Miestamo 2005: 225).

1139
 1140 The most important phonetic change in the negative stems thus concerns palatalisation,
 1141 which generally entails the presence of a front vowel. We find similar phenomena in many

1142 other languages of the world, such as the Old Irish genitive *maicc* (from *macc* ‘son’), in
 1143 which a final *-i*, still preserved in Ogamic *maqqi*, has completely disappeared, leaving
 1144 only a phonetic vestige in the palatalisation of the final consonant (Szemerényi 1980:
 1145 169). Another fitting case is the well-known phenomenon of umlaut in German, in which
 1146 final vowels undergo fronting under the influence of *i*-endings that have disappeared.

1147 This does not mean however that all attested forms of NEG2 are necessarily cognates
 1148 of the unidentified oldest pan-Berber marker which triggered the phonetic change. Yet
 1149 this particular phonetic change, which is shared by all Berber languages, entails the
 1150 existence of a postverbal negator. Even if the phonetic evidence points to the former
 1151 existence of a front vowel, it is seldom attested as such in the NEG2 markers related to
 1152 **kʷāra ~ (h)āra(t)* ‘thing’. The vowel *i* of *kira* in Augila (Libya) could come from *a*, as
 1153 this phonetic correspondence is well known in Berber, like e.g. in *imin* (Augila) vs. *aman*
 1154 (pan-Berber) for ‘water’. But the related form *šīra* ‘thing’ in El-Fogaha (Libya), where
 1155 the development *i < a* is absent, indicates that the front vowel is indeed the original one.
 1156 Moreover, the palatal stop **kʷ*, reconstructed by Kossmann (2013: 332) for **kʷāra* instead
 1157 of the velar **k*, confirms the previous existence of a front sound in the first syllable of
 1158 this word. In any case, given that the vocalic modifications of the verbal stems are archaic,
 1159 while the lexical items used as NEG2 are still easily recognizable, one cannot rule out the
 1160 possibility that these items were added in more recent times to an earlier NEG2 which
 1161 has completely disappeared. Indeed, changes affecting NEG2 are visible in various
 1162 Berber languages, such as in Central Rif Berber (North Morocco), where the most
 1163 widespread Berber negators are replaced by the marker *bu/bu* in specific grammatical
 1164 contexts (Lafkioui 2013a, 2013b).

1165 Other accounts that support our hypothesis of the ancient NEG2’s postposition as the
 1166 formal trigger of NEG3’s creation in Berber come from the behaviour of verbs with a
 1167 post-radical vowel alternation *a/i* in the perfective; the vowel *i*, which is characteristic of
 1168 the negative stem, corresponds to the vowel pattern of the first two grammatical persons
 1169 of the matching positive stem. The origin of the vowel alternation in these verbs has been
 1170 variously explained. A most plausible theory is that of Vycichl (1952: 75, 79), who relates
 1171 these alternations to the presence vs. absence of a subsequent consonant. The vowel *i* is
 1172 typical of the 1st and 2nd person singular, where it is always followed by a consonant,
 1173 originally a plosive. On the other hand, the vowel *a* (and sometimes also *u*) always goes
 1174 with the 3rd singular and 1st plural, where it is in absolute final position. The examples in
 1175 (55) from Kabyle Berber illustrate this hypothesis for the perfective of the verb ‘to wear’:
 1176

1177 (55)

	Positive	Negative
1178 1S	<i>əlsiy < *lsayC</i>	<i>əlsiy < *lsayC</i>
1179 2S	<i>təlsid < *tlsayC</i>	<i>təlsid < *tlsayC</i>
1180 3S	<i>yəlsa < *ylsay #</i>	<i>yəlsi < *ylsay (C-...)</i>
1181 1P	<i>nəlsa < *nlsay #</i>	<i>nəlsi < *nlsay (C-...)</i>

1182 (Reconstruction based on Vycichl 1952: 75-79; Kabyle Berber)

1183 A similar development, wherein one and the same vowel brings forth different outcomes
 1184 according to the phonetic context, took place in other Berber languages as well, when the
 1185 verb is followed by a clitic, like for instance in Nefusa Berber (Libya) in (56), where the
 1186 final *û* comes from *a* (56a) and the internal *é* comes from *i* (< **ay*, 56b).

- 1187
 1188 (56) a. *yengû* ‘he killed’
 1189 b. *yengé=šek* ‘he killed you (m.)’
 1190 *yengé=šem* ‘he killed you (f.)’
 1191 *yengé=t* ‘he killed him’
 1192 *yengé=ttet* ‘he killed her’
 1193 (Beguinet 1942: 106; Nefusa Berber)¹⁶

1194
 1195 All these examples clearly account for our hypothesis that the verbal vowel alternation
 1196 *a/i* results from the sequence **ay* when occurring in absolute final position or before a
 1197 consonant, which can be part of e.g. a postposed negation marker (55) or of a pronoun
 1198 (56).

1199 Another case of vocalic change with a functional value triggered by the postposition
 1200 of an element is attested in Berber of Zuara (Libya), where interrogative sentences show
 1201 interesting phenomena not only in terms of intonation but also in terms of concatenative
 1202 and non-concatenative morphology. As Mitchell (2007: 25–26) pointed out, declarative
 1203 sentences “may often be ‘rendered’ interrogative by the addition of a sentence-affix *-a*,
 1204 which entails the accentuation of the syllable preceding it”. However, in some
 1205 ‘exclamation-question sentences’, the affix is replaced by a vocalic change of the last
 1206 word: “the short vowel *ə* is replaced by a long *a*, with the simultaneous omission of the
 1207 interrogative sentence-suffix *-a*.” From a diachronic perspective, this is another umlaut
 1208 case with internal vowel lowering related to the loss of the final vowel *-a* (57).

- 1209
 1210 (57) a. *yədwəl=ak* *axəmməm=ik* *n qəbəl*
 1211 came.back.PFV.3MSG=2MSG cogitation=2MSG of before
 1212 ‘Your earlier way of thinking has come back to you.’ (declarative)
 1213
 1214 b. *yədwəl=ák* *axəmməm=ik* *n qəbəl a?*
 1215 came.back.PFV.3MSG=2MSG cogitation=2MSG of before QUEST
 1216 ‘Has your earlier way of thinking come back to you?’ (question 1)
 1217
 1218 c. *yədwəl=ák* *axəmməm=ik* *n qəbal?*
 1219 came.back.PFV.3MSG=2MSG cogitation=2MSG of before
 1220 ‘Has your earlier way of thinking come back to you?’ (question 2)
 1221 (Mitchell 2007: 26; Zuara Berber)

¹⁶ Another case of vocalic change when a pronominal suffix is added comes from Nefusa Berber (Libya): *ggellīy-âm* ‘I swear to you’ instead of **ggellay-âm* (Beguinet 1942: 190).

1222 When the last word of the question is a verb, its vocalic pattern changes (58–59); it is
1223 generally the vowel of the final syllable which is affected (58b–59b).

1224

1225 (58) a. *yəssən*

1226 know.PFV.3MSG

1227 ‘He knows.’

1228

1229 b. *mám̄mu yəssán?*

1230 who know.PFV.3MSG

1231 ‘Who knows?’

1232

1233 (59) a. *yəkmál*

1234 complete.PFV.3MSG

1235 ‘He (was) completed.’

1236

1237 b. *i mátta yəkmál?*

1238 to what complete.PFV.3MSG

1239 ‘What’s all this about?’

1240 (Mitchell 2007: 26; Zuara Berber)

1241

1242 Given that this phonetic change concerns all final words of an (exclamation-)question
1243 sentence, not just verbs but any grammatical unit, one cannot yet label such verbal forms
1244 as specific “question forms”, but they are a good example of how Berber negative stems
1245 could have come into being. In this case, the last step of a full grammaticalisation is not
1246 yet completed.

1247 Our investigation of the origin of NEG3 has shown that the presence of a postverbal
1248 negator (NEG2) in Berber is most probably ancient and at the basis of the origin of
1249 dedicated negative verb stems (NEG3), which are marked by specific vowel patterns
1250 resulting from certain phonetic phenomena like accentuation and umlaut. Since these
1251 negation constructions with NEG3 are widespread all over North Africa, it is reasonable
1252 to regard them as tracing back to the same ancient stage of Berber’s language history.
1253 Therefore, the hypothesis that considers the origin of double negation [NEG1 – V/V_{NEG3}
1254 - NEG2] in Berber as a result of contact with Arabic is questionable, all the more because
1255 double negation in Arabic would have come into being when a two or three-fold negation
1256 system was already firmly established in Berber.

1257 The influence of Arabic on Berber negation is rather that of an incentive to preserve
1258 NEG2 in those languages where the Berber variants became analogous to the Arabic
1259 variants by means of a palatalisation of the Berber velar **k* (e.g. Berber **k(i)ra* > *šra/šal/š*,
1260 with *š* occurring in both Berber and Arabic). These palatalising languages belong to a vast
1261 Berber-speaking area extending from the centre of North Africa, whereas the Berber

1262 languages spoken in its fringes (e.g. Mauritania, Libya, Siwa, Sahara), which generally
1263 drop NEG2, do not have palatalisation of *k.

1264

1265 5 Conclusion

1266

1267 The present study has demonstrated from a synchronic, diachronic, and typological
1268 perspective that Berber possesses an ancient and deeply rooted triple negation, NEG3
1269 being dedicated stem vowel alternations, engendered by specific morphophonemic
1270 mechanisms, which are argued to form a typologically new source for the creation of
1271 negators.

1272 Furthermore, the study has shown that the language stage [NEG1 + V/V_{NEG3} + NEG2]
1273 is probably of Berber origin and therefore precedes the presently attested [NEG1/NEG4
1274 + V]. In doing so, we have proven that the Jespersen Cycle has returned back to its starting
1275 point in certain Berber languages, for which we discussed three main parameters:
1276 economy, the NEG-first principle, and semantic bleaching. In the same line of thought,
1277 we have also provided accounts that point to Berber as a substrate in the development of
1278 double negation in North African Arabic.

1279 From a typological perspective, Berber, with its widespread use of two concatenative
1280 negators (NEG1/NEG4, NEG2) combined with a third, non-concatenative negator
1281 (NEG3), can be considered one of the few languages in the world which possess a “triple
1282 negation” system, a feature also pointed out in some other languages belonging to
1283 different phyla, such as in Lewo (Malayo-Polynesian language spoken in Vanuatu), in
1284 Brabantian Dutch and in Bantu (van der Auwera et al. 2013). With respect to the origin
1285 of the negative stems (NEG3), it is reasonable to regard the discussed morphophonetic
1286 mechanisms (including palatalisation) triggered by the presence of a postverbal negator
1287 as an essential source for new negators, beyond those already known, like, for instance, a
1288 word expressing minimal value (e.g. French *pas* ‘not even a step’), a negative word (e.g.
1289 English *not*, which originally meant ‘nothing’), an emphatic element (e.g. French *du tout*
1290 or English *at all*), a particle of negative answer (e.g. Brazilian Portuguese *não*), a
1291 repetition of the first negator (e.g. Brabantian *nie*), locative and possessive pronouns
1292 (Bantu), among others (e.g. Devos and van der Auwera 2013, van der Auwera 2010).

1293 Finally, evidence for the strongly asymmetric nature of Berber negation was given in
1294 this study, even though a new trend towards more symmetrical negation patterns is also
1295 found in certain Berber languages.

1296

1297

1298	Abbreviations	
1299	1	first person
1300	2	second person
1301	3	third person
1302	A	aspect(ual)
1303	ACC	accusative
1304	AOR	aorist
1305	AUX	auxiliary
1306	DEICT	deictic
1307	DEM	demonstrative
1308	PRO.DIR	direct object pronoun
1309	DS	dependent state
1310	EXT.NEG	existential negation/negator
1311	F	feminine
1312	IMP	imperative
1313	IPFV	imperfective
1314	IRR	irrealis
1315	M	masculine
1316	NEG	negation, negator
1317	NIPFV	negative imperfective
1318	NPFV	negative perfective
1319	PFV	perfective
1320	PL	plural
1321	PRDR	predicator
1322	PROX	proximal
1323	PRSM	personal marker
1324	PTCP	participle
1325	PTCPM	participle marker
1326	RES	resultative
1327	S	subject
1328	SG	singular
1329	VENT	ventive
1330		
1331		

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