



HAL
open science

Post-sonorant occlusivization in Kabyle

Amazigh Bedar, Lucie Quéllec, Ali Tifrit

► **To cite this version:**

Amazigh Bedar, Lucie Quéllec, Ali Tifrit. Post-sonorant occlusivization in Kabyle. RFP2022: 19èmes rencontres du Réseau Français de Phonologie /19th Meeting of the French Phonology Network, Jun 2022, Porto, Portugal. hal-03691265v1

HAL Id: hal-03691265

<https://hal.science/hal-03691265v1>

Submitted on 9 Jun 2022 (v1), last revised 15 Jul 2022 (v2)

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Post-sonorant occlusivization in Kabyle

Amazigh Bedar, Lucie Quellec & Ali Tifrit
 Nantes Université, CNRS, Laboratoire de linguistique de Nantes, UMR 6310, F-44000 Nantes, France

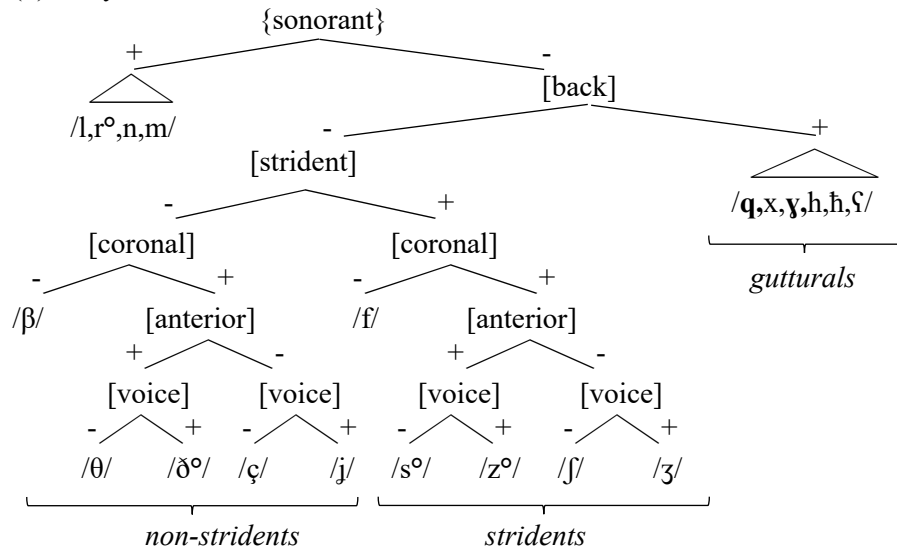
19th RFP meeting
 june 7-9 2022
 CLUP OPorto

Kabyle/θaqβajliθ: Spoken in North Algeria. Berber, Afro-asiatic. Here we focus on Chemini Kabyle (South-East Bejaïa).

- (1) Spirantizing vs non-spirantizing Berber languages (CHAKER 2004, KOSSMANN 2021, KOSSMANN, M. G. & H. G. STROOMER (1997).

Kabyle as a spirantized language: obstruent’s system composed of spirant consonants to the exclusion of uvular /q/¹.

(2) Kabyle consonants



/X°/ = distinctive emphasis /X/~X^s/.

Kabyle: occlusivization whenever a fricative is geminated.

(3) Simple vs geminated in Chemini Kabyle (ChK)

		preterit/perfect C ₁ C ₂ əC ₃	intensive/imperfect C ₁ əC ₂ C ₂ əC ₃	gloss
(a) sonorants				
[r]	[rr]	[frən]	[fərrən]	<i>choose</i>
[ɾ]	[ll]	[qɾəɟ]	[qəlləɟ]	<i>remove, start</i>
[n]	[nn]	[ħnəθ]	[ħənnəθ]	<i>perjure</i>
[m]	[mm]	[qməɟ]	[qəmməɟ]	<i>close eyes</i>
(b) [-strident] fricatives				
[β]	[bb]	[qβəð]	[qəbbəð]	<i>take by force</i>
[θ]	[tt]	[fθəɾ]	[fəttəɾ]	<i>roll couscous</i>
[ð]	[dd]	[xðəm]	[xəddəm]	<i>work</i>
[ç]	[kk]	[zçəm]	[zəkkəm]	<i>stay silent</i>
[j]	[gg]	[mjər]	[məggər]	<i>harvest</i>
(c) [+strident] fricatives				
[f]	[pp]	[rfəð]	[rəppəð]	<i>carry</i>
[s]	[ts]	[fsər]	[fətsəsər]	<i>expand</i>
[z]	[dz]	[jzər]	[jədzdzər]	<i>notch</i>
[ʃ]	[tʃ]	[çʃəm]	[çətʃtʃəm]	<i>enter</i>
[ʒ]	[dʒ]	[βʒəh]	[βədʒdʒəh]	<i>wide open</i>
(d) [+back] fricatives				
[x]	[xx]	[sxəð]	[səxxəð]	<i>punish, afflict</i>
[ɣ]	[qɣ]	[nɣəs]	[nəqɣəs]	<i>reduce</i>
[h]	[hh]	[nhər]	[nəhhər]	<i>drive</i>
[ħ]	[ħħ]	[mħəq]	[məħħəq]	<i>grind, crush</i>
[ʕ]	[ʕʕ]	[nʕəɾ]	[nəʕʕəɾ]	<i>insult, curse</i>

¹ We will not discuss /q/ in this presentation. w.r.t. glides (/j/ & /w/) see BEDAR, QUELLEC & VOELTZEL (2021).

OCclusivization: in other A.-A. languages (Hebrew, Tigrinya: ELMEDLAOUI 1993, LOWENSTAMM & PRUNET 1996).

(4) $\sqrt{\text{sjr}}$: aorist & intensive

$[\text{sjər}]$ <i>be sore.AOR</i>	$[\text{səggər}]$ <i>be sore.INT</i>
C ₁ v C ₂ V C ₃ V	C ₁ V C ₂ v C ₂ V C ₃ V
s j ə r	s ə j ə r

However, OCC without extra-position: post-sonorant.

(5) Some examples of sonorant + /β, θ, ð, ç, j/ in ChK

	/r/	/l/	/n/	/m/
/β/	$[\text{rβu}]$ <i>litter</i>	$[\text{ɹβuβəy}]$ <i>soaked</i>	$[\text{mbəh}]$ <i>warn</i>	$[\text{imbuxən}]$ <i>soot</i>
/θ/	$[\text{θirθəwθ}]$ <i>rheum</i>	$[\text{ltəf}]$ <i>massage</i>	$[\text{ntu}]$ <i>depressed</i>	$[\text{θasumta}]$ <i>pillow</i>
/ð/	$[\text{rðəx}]$ <i>crush</i>	$[\text{aldun}]$ <i>lead</i>	$[\text{anda}]$ <i>where</i>	$[\text{θamda}]$ <i>pond</i>
/ç/	$[\text{rku}]$ <i>rotten</i>	$[\text{θiɹkiθ}]$ <i>louse</i>	$[\text{ŋkər}]$ <i>deny</i>	$[\text{amkan}]$ <i>place</i>
/j/	$[\text{argaz}]$ <i>man</i>	$[\text{aɹgam}]$ <i>flange</i>	$[\text{ŋgi}]$ <i>drain</i>	$[\text{amjuð}]$ <i>cutting</i>

(6) $\sqrt{\text{rjl}}$

$/\text{rjəl}/ \rightarrow [\text{rgəl}]$ *close, shut*

C ₁	v	C ₂	V	C ₃	V
r		j	ə	l	

Government Phonology Framework: KLV (1985, 1990), HARRIS (1990, 1994), HARRIS & LINDSEY (1995), LOWENSTAMM (1996), SCHEER (2004), NASUKAWA (2000), BACKLEY (2011).

![sonorant] used as a shortcut.

Fricatives and occlusivization

/β, θ, ð, ç, j/ only: [-strident].

SAIB (1974, *inter alia*): diachronic process which spirantized proto-Berber stops in Tamazight & Tachelhit resulting in [-strident] fricatives.

(7) SAIB (1974: 11) : While the summary of the historical changes reveals the differences observed in Berber dialects and explains the alternations that now occur, the problem of how to account for the present situation is not necessarily resolved by the diachronic account.

Aït Ndhir Tamazight problem:

(8) SAIB (1974: 17): [...] instead of an alternation of simple/identical geminate stops, as in Tachelhiyt, the alternation exhibited by this dialect is one between non-strident spirants and geminate stops.

Underlying consonants: stops or fricatives? spirantization or occlusivization rule?

No single stops surface in Aït Ndhir Tamazight: underlying fricatives.

(9) SAIB (1974: 20, fig. 31) *occlusivization rule*

SD:	[-strident, + continu] ₁ (#)	[-strident, + continu] ₂
SC:	[- continu] ₁	[- continu] ₂

(where 1 = 2)

OUAKRIM (1995 : 46sq) a.o.: same reasoning but lax/tense contrast.

Chemini Kabyle: **OCC** of all front fricatives.

(10) Stridency: simples and geminates

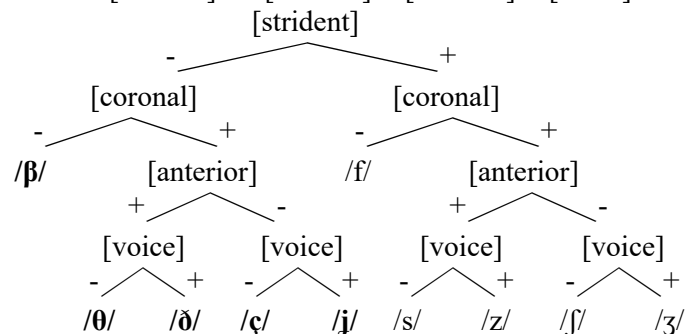
<i>non-strident</i>		<i>strident</i>	
<i>simple</i>	<i>geminate</i>	<i>simple</i>	<i>geminate</i>
/β/ : [β]	[bb]	/f/ : [f]	[pp]
/θ/ : [θ]	[tt]	/s/ : [s]	[tsts]
/ð/ : [ð]	[dd]	/z/ : [z]	[dzdz]
/ç/ : [ç]	[kk]	/ʃ/ : [ʃ]	[tʃtʃ]
/j/ : [j]	[gg]	/ʒ/ : [ʒ]	[dʒdʒ]

ELIAS (2020) and ref. therein for a recent analysis and discussion of length/strength in Kabyle.

Only [-strident] fricatives **Post-Sonorant OCC**.

Modified Contrastivist Specification (DRESHER 2009, 2021, HALL 2007, 2011).

(11) Stridency Hierarchy in ChK
 [strident] >> [coronal] >> [anterior] >> [voice]



Unequal involvement

(12) **Post-Sonorant OCC**

	/r/___	/l/___	/n/___	/m/___
a. /β/	-	-	+	+
b. /θ/	-	+	+	+
c. /ð/	-	+	+	+
d. /ç/	+	+	+	+
e. /j/	+	+	+	-

"+" = OCC. "-" = No OCC.

/r, l, n, m/: members trigger OCC at different degrees.

(13) BACKLEY (2011 : 149) [...] because voicing is not phonological in nasals, or in any other sonorants, it is not represented by an element. This leads us to the conclusion that 'sonorant' is not actually a grammatical category; it does not count as a natural class because sonorants (vowels, glides, liquids, nasals) have no phonological properties in common.

(14) **"Sonorants" can, under conditions, host [-strident] fricatives content.**

Non-stridency as headedness

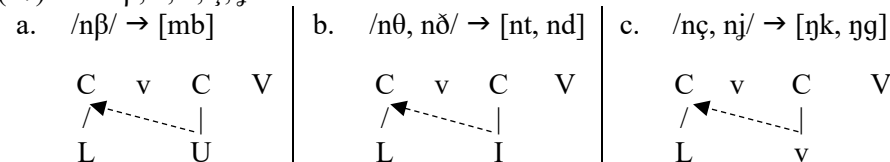
[-strident] fricatives: headed elementary content hence their capacity to spread.

(15) [-strident]: HEAD [+strident]: ¬HEAD

(16) /β/ = U labial
 /θ, ð/ = I coronal
 /ç, j/ = ɤ dorsal

The coronal nasal /n/

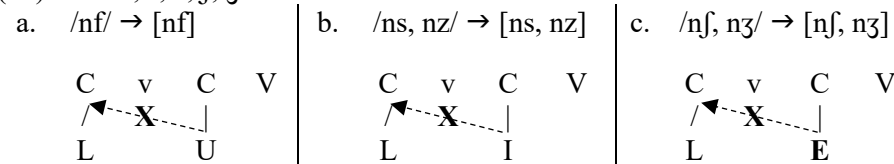
(17) /n/ + /β, θ, ð, ç, j/ in ChK



Homorganicity: Headed elementary content spreading.

No Homorganicity No OCC with [+strident] fricatives.

(18) /n/ + /f, s, z, ʃ, ʒ/ in ChK



When spreading occurs, the content of the headed expression is interpreted on two positions (as for geminates): it entails OCC.

The lateral /l/

In Chemini Kabyle, the lateral is realized:

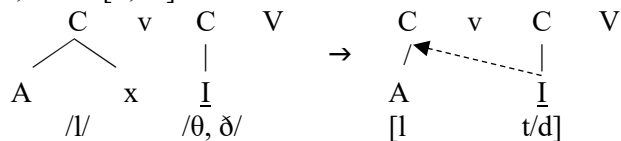
- as an approximant [ɭ] when simple,
- as [l] when geminated and when it precedes /θ/ or /ð/.

BEDAR & QUELLEC (2020): bipositionality of [l] + shared content with /θ, ð/.
 BACKLEY (2011: 165): laterals may contain |A| and |l|.

In ChK: [ɭ] is the result of a lenition process leading to the loss of |l|. /l/ can surface as [l] provided that the adjacent segment contains headed-I.

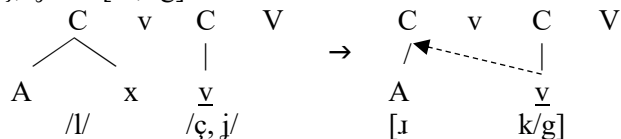
(19) /l/ + /θ, ð/ in ChK

/lθ, lð/ → [lt, ld]



(20) /l/ + /ç, j/ in ChK

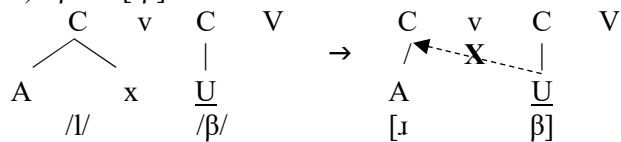
/lç, lj/ → [ɭk, ɭg]



|ɭ| has no hot features:

- spreads and is interpreted on two positions >> OCC.
- the lateral is bipositional but, lacking |l|, not interpreted as [l] >> [ɭ]

(21) /lβ/ → [ɭβ] in ChK



Lateral accepts only |l|: |U| cannot spread >> neither OCC, nor [l].

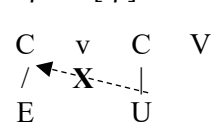
The rhotic /r/

The rhotic rejects |l| (/θ, ð/) and |U| (/β/): only /ç, j/'s OCC is attested.

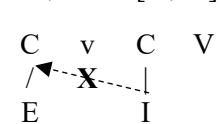
|ɭ| can interpret its content on the preceding position without modifying the rhotic (no significant change in duration, no change in quality).

(22) /r/ + /β, θ, ð, ç, j/ in ChK

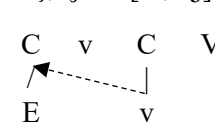
a. /rβ/ → [rβ]



b. /rθ, rð/ → [rθ, rð]



c. /rç, rj/ → [rk, rg]



|E|: up to now we don't know the content of /r/ in ChK (and in Kabyle).

Backley (2011 : 165): /r/ = |A|.

(23) |A|, |R|, nothing?

- Distinct representation for the rhotic [r] and the ungeminated lateral [ɭ].
- Type I : Split-R dialect (Youssef: 2019): /r/~r^S/ neutralized (/r/ → [r^S]/_ [+back]). If /r/ = |A|, /r^S/ would be |A|^{|A|}?
- |R| (HARRIS 1990, 1994): no processes justifying the use of this prime.
- un/underspecified (RICE 1992, 2005, AVERY & RICE 1988, NATVIG 2020) /r/ does not explain /ç, j/ occlusivization and why /β, θ, ð/ do not. If /r/ had no content, all [-strident] fricatives should be subject to occlusivization.

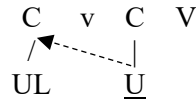
/r/ does have elementary content (or a particular structure, which we don't now yet) blocking the occlusivization of [-strident] fricatives except /ç, j/ because the latter are made of |ɭ|.

The labial nasal /m/

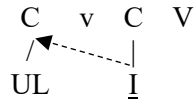
OCC post-/m/ everywhere except for the voiced palatal /j/ in ChK :

(24) Attested /m/ + /β, θ, ð, ç, j/ in ChK

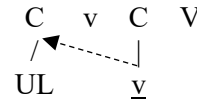
a. /mβ/ → [mb]



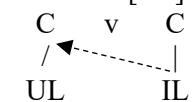
b. /mθ/ → [mt]



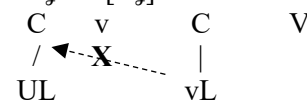
c. /mç/ → [mk]



d. /mð/ → [md]



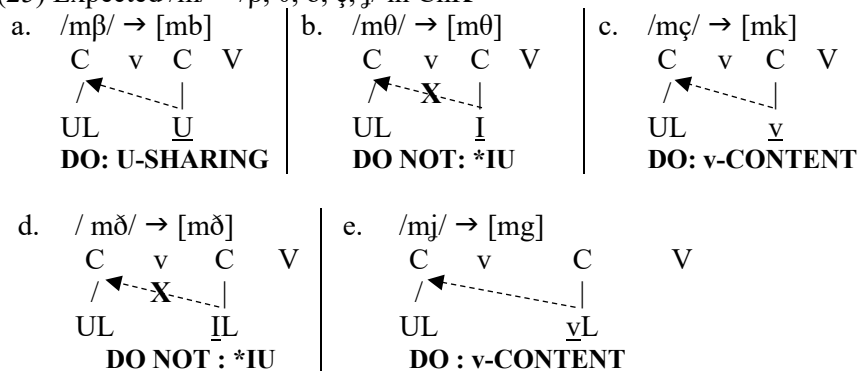
e. /mj/ → [mj]



No modification of /m/: does not accept any external content and it contains |U|.

- i. No problem with bilabial fricative |U| >> sharing content (HONEYBONE 2004).
- ii. Should permit /ç, j/ occlusivization given their content |v| >> this is never the case for /j/.
- iii. Should block /θ, ð/ occlusivization given their content |I| >> this is not the case in ChK|.

(25) Expected /m/ + /β, θ, ð, ç, j/ in ChK



Varieties of Kabyle: Aït Mengellat (DALLEY 1982), Ouaguenoun & Boghni.

(26) Dialectal variation and post-/m/ occlusivization I

	/mβ/	/mç/	/mj/	/mθ/	/mð/
Occlusivization	<i>expected</i>			<i>unexpected</i>	
Fricative content	U	v	vL	I	IL
Ouaguenoun	[mb]	[mk]	[mj]/__[ə,i,a]	[mθ]	[mð]
Boghni			![mh]/ [u]		
Aït Mengellat	[mb]	[mk]	[mj]	[mt]	[mð]
Chemini	[mb]	[mk]	[mj]/__[ə,i,a] ![mh]/ [u]	[mt]	[md]
<i>Status</i>	<i>constant</i>			<i>variable</i>	

! In all these varieties: occlusivization post-/r,l,n/ consistent with what we described in ChK.

(27) Dialectal variation and post-/m/ occlusivization II

- i. the **bilabial** is always subject to occlusivization.
- ii. the **unvoiced palatal** is systematically subject to occlusivization (as expected). However, it is never the case for **its voiced counterpart /j/**. Notice that for Chemini, Boghni and Ouaguenoun, if /mj/ is followed by [u], /j/ is debuccalized ([h]).

>> Voicing conflict: *LL

- iii. The **coronals** /θ, ð/ give variable results:

– Boghni and Ouaguenoun do not show occlusivization (as expected) as if the nasal were unable to bear both |I| and |U| elements.

>> Element conflict: *IU

– In Aït Mengellat, no occlusivization for the voiced coronal but for the unvoiced.

>> Voicing conflict: *LL

– In Chemini, occlusivization is systematic.

>> Neither Voicing, nor Element conflict.

Special status of /m/: more structure?

Conclusion

Process mistaken as a case of stop preservation.

Outcome of our analysis:

- occlusivization not spirantization in Kabyle.
- internal make-up of segments interacting in this process.
- sonorancy?

Post-Sonorant Occlusivization brings into play the nature of elements, their status, the internal structure of segments and the intersegmental relationship.

- AVERY, P. & K. RICE** (1988). Underspecification theory and the coronal node. *Toronto Working Papers in Linguistics*, 9.
- BACKLEY, P.** (2011). *Introduction to element theory*. Edinburgh University Press.
- BEDAR, A. & L. QUELLEC** (2020). L-alternations in Taqbaylit. Krzysztof Jaskuła. *Phonological and Phonetic Explorations*, Wydawnictwo KUL, pp.11-28.
- BEDAR, A., QUELLEC L. & L. VOELTZEL** (2021). Epenthetic glides in Taqbaylit. *Journal of African Languages and Literatures* vol. 2, 1-29.
- CHAKER, S.** (2004). Kabylie: la langue. Présentation générale. *Encyclopédie berbère*, (26), 4055-4066.
- DALLET, J. M.** (1982). *Dictionnaire kabyle-français*. Société d'Études Linguistiques et Anthropologiques de France.
- DRESHER, B. E.** (2009). *The contrastive hierarchy in phonology* (No. 121). Cambridge University Press.
- DRESHER, B. E.** (2021). Contrastive hierarchies and phonological primes. *Perspectives on Element Theory*, 143, 33.
- ELIAS, A.** (2020) Kabyle "Double" Consonants: Long or Strong? *McGill Working Papers in Linguistics*, Vol. 26/1.
- ELMEDLAOUI, M.** (1993). Gemination and spirantization in Hebrew, Berber, and Tigrinya: a fortis-Lenis module analysis. *Linguistica Communicatio*, 5(12), 121-176.
- HALL, D. C.** (2007). *The role and representation of contrast in phonological theory*. Toronto: University of Toronto.
- HALL, D. C.** (2011). Phonological contrast and its phonetic enhancement: Dispersedness without dispersion. *Phonology*, 28(1), 1-54.
- HARRIS, J.** (1990). Segmental Complexity and Phonological Government. *Phonology*, 7(2), 255-300.
- HARRIS, J.** (1994). *English sound structure*. Oxford: Blackwell.
- HARRIS, J. & G. LINDSEY** (1995). The elements of phonological representation. *Frontiers of phonology: Atoms, structures, derivations*, 34, 79.
- HONEYBONE, P.** (2004). Sharing makes us stronger. *Headhood, Elements, Specification and Contrastivity: Phonological Papers in Honour of John Anderson*, edited by Phil Carr, Jacques Durand & Colin Ewen, 167-192.
- KOSSMANN M. G.** (2021). Proto-Berber phonological reconstruction: An update. *Linguistique et Langues Africaines* n°6. p. 11-42.
- KOSSMANN, M. G. & H. G. STROOMER** (1997). Berber Phonology. *Phonology of Asia and Africa*, 461-475.
- KAYE, J., J. LOWENSTAMM & J. R. VERGNAUD** (1985). The internal structure of phonological elements: a theory of charm and government. *Phonology*, 2(1), 305-328.
- LOWENSTAMM, J.** (1996). CV as the only syllable type. *Current trends in phonology: Models and methods*, 2, 419-441. **LOWENSTAMM, J.** (1996). The beginning of the word. *Phonologica*, 153-166.
- LOWENSTAMM, J. & J. F. PRUNET** (1986). Le tigrinya et le principe du contour obligatoire. *Revue québécoise de linguistique*, 16(1), 181-206.
- MADOU, K.** (1995). *Contribution à la géographie linguistique de la petite Kabylie*. Ms. DEA: INALCO.
- NASUKAWA, K.** (2000). *A Unified Approach to Nasality and Voicing*. Ms. PhD UCL: London.
- NATVIG, D. A.** (2020). Rhotic underspecification: Deriving variability and arbitrariness through phonological representations. *Glossa: a journal of general linguistics*, 5(1), 1-28.
- OUAKRIM, O.** (1995). *Fonética y Fonología del Bereber*. Universitat Autònoma de Barcelona.
- RICE, K. D.** (1992). On deriving sonority: a structural account of sonority relationships. *Phonology* 9(1), 61–99.
- RICE, K. D.** (2005). Liquid relationships. *Toronto Working Papers in Linguistics* 24, 29–42.
- RICE, K. D. & P. AVERY** (1991). On the relationship between laterality and coronality. In Carole Paradis and Jean-François Prunet (eds.), *The Special Status of Coronals: Internal and External Evidence*, 101–123. San Diego: Academic Press.
- SAIB, J.** (1974). Gemination and spirantization in Berber: Diachrony and synchrony. *Studies in African Linguistics*, 5(1), 1.
- SCHEER, T.** (2004). *A lateral theory of phonology: What is CVCV, and why should it be?*. Walter de Gruyter.
- YOUSSEF, I.** (2019). The phonology and micro-typology of Arabic R. *Glossa: a journal of general linguistics*, 4(1).