

Where *r* you going? A typology of long-distance metathesis of liquids

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In the diachrony of several Romance languages, phenomena of long-distance metathesis of liquids (henceforth LDML) are broadly attested. More specifically, liquids, and especially rhotics, historically found in non-initial positions appear to have moved leftwards, having resulted in a new complex onset closer to the left edge of the word. This paper proposes an account for the typological differences that arise among the languages at hand, couched within *Property Theory* (Alber & Prince 2015, in prep.; Alber, DelBusso & Prince 2016).

The data: LDML is typically found in the diachrony of Romance languages, e.g. dialects of Italian, among which Sardinian (Geisler 1994; Bolognesi 1998; Molinu 1999), Campanian (Abete 2015), Calabrian (Rohlf's 1966), Northern Italian (Rohlf's 1966); Gascon (Grammont 1905; Dumenil 1987); Alguerese Catalan (Cabrera-Callís *et al.* 2010; Torres-Tamarit *et al.* 2012); Sephardic Spanish (Lipski 1990; Bradley 2007); additionally, Greek dialects spoken in Italy (Rohlf's 1930; Karanastassis 1997; own fieldwork). On the basis of the distance a migrating liquid (henceforth R) covers, two patterns are observed: (1) R travels all the way to the first onset of the word (ons-1); (2) R docks on the onset of the adjacent syllable (ons-adj).

- (1) a. *Sardinian* krannuya < conuc(u)la ‘distaff’
 b. *Gascon* crabeste < capistru ‘halter’
 c. *Italiot Greek* krapisti < kapistri ‘halter’
- (2) a. *Alguerese* catradal < catedral ‘cathedral’
 b. *Sephardic* cabresto < cabestro ‘halter’

In a subset of these languages, LDML coexisted with metathesis of R from a coda position to either the onset of the same syllable (ons-same) or the ons-1, for example:

- (3) a. *Sephardic* taβrena < taβerna ‘tavern’
 b. *Sestu Sardinian* kroβetura < coopertura ‘roof’

Alber (2001) adopts the view that Rs are easily reinterpreted as originating in a different position (see Blevins & Garret 2004 and references therein) and makes a convincing case that LDML fulfills a requirement for enhancement of the perceptual prominence of the left edge (see also Bolognesi 1998). Interestingly, the languages exhibiting LDML respond to the call for initial prominence in different ways, which gives rise to typological variation:

(4)	<i>Languages</i>	<i>met. from onsets</i>	<i>met. from codas</i>
<i>Type A</i>	Latin, Medieval Greek	no	no
<i>Type B</i>	Tertenia Sardinian, Gascon, Italiot Greek	to ons-1	no
<i>Type C</i>	Sestu Sardinian, Neapolitan	to ons-1	to ons-1
<i>Type D</i>	Alguerese Catalan, Sephardic Spanish	to ons-adj	to ons-same

Subsequent work within different theoretical frameworks has provided valuable insight in the LDML phenomena (e.g. Coffman 2013, Canfield 2015 on Gascon, Tertenia, and Italo-Greek within OT-based models; Lai 2013, 2015, Scheer 2014 on Sardinian within Strict CV; Tifrit 2020 on Sardinian within GP2.0; Torres-Tamarit *et al.* 2012 on Alguerese within Harmonic Serialism). However, these analyses focus on particular languages and cannot be extended to capture the bigger typological picture.

Proposal: Following Alber’s (2001) take that the driving force for the leftward LDML patterns found in Romance languages is the enhancement of perceptual prominence via the accrual of

material closer to the left edge, we propose a typological analysis capable of placing LDML in a broader metathesis landscape, within Property Theory (PT, Alber & Prince 2015, in prep.; Alber, DelBusso & Prince 2016). In the spirit of Zoll (1996, 1998), we formalize the preference for complex onsets being found word-initially by means of a positional markedness constraint ALIGN(Complex Onset, Left Edge), which assigns a violation for each syllable separating a non-initial complex onset from the left edge. Moreover, in line with Torres-Tamarit *et al.* (2012) we employ *R/CODA (see also Orgun 2001). The displacement of R is penalized by LINEARITY. Finally, we posit NEIGHBORHOOD(nucleus), which imposes restrictions on the distance an R may travel; in particular, it may skip maximally one vowel without incurring a violation. The violation profiles of the toy candidates that are relevant to our case are illustrated below:

/kapatRa/	ALIGN	LIN	*R/CD	NEI
a. ka.pa.tRa	**			
b. ka.pRa.ta	*	*		
c. kRa.pa.ta		*		*

Violation tableau 1: onset /R/

/kapaRta/	ALIGN	LIN	*R/CD	NEI
a. ka.paR.ta			*	
b. ka.pRa.ta	*	*		
c. kRa.pa.ta		*		*

Violation tableau 2: coda /R/

Along the lines of PT, we aim at providing a better understanding of the cross-linguistic variation by extracting the *properties* building the typological system at hand, that is, the sufficient and necessary ranking conditions which are freely combined with each other and generate all the languages of the typology (this includes not only the languages described above, but also languages displaying unattested yet possible manifestations of LDML, or languages with local R metathesis processes, see Blevins & Garrett 1998, 2004; Russell-Webb & Bradley 2009; Lai 2015, a.o.). Four such building blocks, that act as triggers/blockers of metathesis, are yielded by the competition between markedness and faithfulness. On the one hand, the rankings within the constraint pairs ALIGN \langle LIN and *R/CD \langle LIN decide on whether or not metathesis can be allowed in a given language in order to repair a non-initial complex onset or a coda R, respectively. On the other hand, the locality restrictions are captured by the individual rankings of ALIGN and *R/CD against NEIGH. Additionally, the ranking between the two markedness constraints, i.e. the property *R/CD \langle ALIGN, determines which of the two marked structures is less tolerated in each language. Table (5) summarizes the classification of the language types presented at (4) by means of property values. The change from one type to another is captured as a switch in the values of the particular properties that hold for each language type.

(5)

	ALIGN \langle LIN	*R/CD \langle LIN	ALIGN \langle NEIGH	*R/CD \langle NEIGH	*R/CD \langle ALIGN
A	b	b	moot	moot	moot
B	a	b	a	a	b
C	a	a	a	a	moot
D	a	a	b	moot	a

[The properties are represented as X \langle Y; value *a* corresponds to X \gg Y; value *b* corresponds to Y \gg X; the indication *moot* means that the property is not relevant in this language type. The property table was generated by OTWorkplace, Prince, Merchant & Tesar 2020.]

Selected references: Alber, B. 2001. Maximizing first positions. In C. Féry *et al.* (eds.), *Proceedings of HILP5*, 1–19. University of Potsdam • Alber, B. & A. Prince. 2015. Outline of Property Theory. Ms, UniVR / Rutgers University • Blevins, J. & A. Garret. 2004. The evolution of metathesis. In B. Hayes *et al.* (eds.), *Phonetically Based Phonology*, 117–156. Cambridge: Cambridge University Press • Torres-Tamarit, F., C. Pons-Moll & M. Cabrera-Callís. 2012. Rhotic Metathesis in Algherese Catalan: A Harmonic Serialism Account. In K. Geeslin & M. Díaz-Campos (eds.), *Selected Proceedings of the 14th Hispanic Linguistics Symposium*, 354–364. Somerville, MA: Cascadilla Proceedings Project • Zoll, C. 1996. Parsing below the segment in a constraint-based framework. PhD dissertation, University of California.