Syllable Contact Law in OT: a case study of the development of the Italian *passato remoto* deriving from Latin *u*-perfect

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1. Introduction

The Italian *passato remoto* derived from Latin *u*-perfect underwent three types of change, depending on the root-final consonant:

1. Gemination of the root-final consonant occurred when the root-final consonant was *k* (e.g. 1sg. PLACUĪ > *plakwi > piacque 'someone liked me').
2. Gemination of the root-final consonant with delation of **w* occurred when the root-final consonant was *p, b, v, t, d* and *n* (e.g. 1sg. HABUĪ > *abwi > ebbe 'I had').
3. Strengthening of **w* to *v* occurred when the root-final consonant was *r* or *l* (e.g. 1sg. PARUĪ > *parwi > parve 'it seemed to me').

The traditional rule-based approaches, such as Tekavčić (1972: 385-6), could not figure out why diverse changes are observed depending on the type of root-final consonant. In this study, based on the OT framework (Prince & Smolensky 2004), we will show that these developments can be explained in a unified way.

2. Developments of the *passato remoto* and the Syllable Contact Law

Syllable Contact Law (SCL):

"in the sequence of syllables A$B, it is more preferred that the sonority of the onset of B is lower than that of the coda of A, or the sonority of these two consonants is equal." (Murray & Vennemann 1983)

glides (w) >> rhotics (r) >> laterals (l) >> nasals (n) >> voiced fricatives (z) >> voiced stops (d) >> voiceless fricatives (s) >> voiceless stops (t)

Fig.1: the sonority scale

k.w, *b.w* and *r.w* are ill-formed SCs in terms of the SCL. To resolve such an ill-formedness, the three types of change mentioned above occurred.

1. PLA.CU.Ī > *plak.wi > piacque /pjak.kwe/
2. HA.BU.Ī > *hab.wi > eb.be
3. PA.RU.Ī > *par.wi > par.ve (" . " indicates a syllable boundary)

However, by means of the SCL as a simple markedness constraint, we cannot give a satisfactory explantion as to why diverse changes occurred depending on the root-final consonant.

3. SCL as a relational constraint

Typologically, a coda consonant with higher sonority is more preferred (i.e. *Coda/t >>…>> *Coda/w), while an onset consonant with lower sonority is more preferred (i.e. *Ons/w >>…>> *Ons/t). Gouskova (2004) combined these two constraint hierarchies, and proposed the SCL as a relational constraint. This constraint is represented as the syllable contact scale (**Fig.2**). And this scale evaluates hierarchical markedness concerning the sonority distance between the two consonants in the SC.

w.t	w.s	w.d	w.z	w.n	w.l	w.r	w.w	r.w	l.w	n.w	z.w	d.w	s.w	t.w
	r.t	r.s	r.d	r.z	r.n	r.l	r.r	l.r	n.r	z.r	d.r	s.r	t.r	
		l.t	l.s	l.d	l.z	l.n	l.l	n.l	z.l	d.l	s.l	t.l		
			n.t	n.s	n.d	n.z	n.n	z.n	d.n	s.n	t.n			
				z.t	z.s	z.d	z.z	d.z	s.z	t.z				
					d.t	d.s	d.d	s.d	t.d					
						s.t	s.s	t.s						
							t.t							
-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7

more harmonic ⟷ less harmonic

Fig.2: The syllable contact scale (Gouskova 2004: 211)

The indices at the bottom of each stratum indicate sonority distance. The greater the sonority falling of a SC is, the more harmonic it is. And the greater the sonority rising of a SC is, the less harmonic it is. In OT tableaux, evaluations by the SCL are indicated by the index in the syllable contact scale.

If the first syllable of the SC does not have a coda (e.g. *a.k*), this SC does not violate the SCL. We consider that such a SC vacuously satisfies the SCL (McCathy 2004: 79).

4. Analysis

4.1 Gemination of the root-final consonant

- Stress-to-Weight (STW): a stressed syllable must be heavy
- *ComplexOnset (*CompOns): a tautosyllabic cluster in onset is prohibited

/plakwi/	STW	SCL	Dep	Max
☞plák.kwi		0	*	
plák.wi		+7!		
plá.kwi	*!			
plák.vi		+3!		

/plakwi/	Max	*CompOns
☞plák.kwi		*
plák.ki	*!	

Tab.1: STW >> SCL >> {Dep, Max} and Max >> *ComplexOnset (disjunctive ranking) (*The account as to why Max is dominated by the SCL is omitted here.)

4.2 Gemination of the root-final consonant with delation of *w

- *C[-velar]w: *w* cannot form an onset cluster following consonant other than velar

/abwi/	STW	SCL	Dep	Max
☞áb.bi		0	*	*
áb.bwi		0	*	
á.bwi	*!			
áb.wi		+5!		
áb.vi		+1!		
á.bi	*!			*

*C[-velar]w	Max	*CompOns
	*	
*!		*
*!		*
	*	

Tab.2: *C[-velar]w >> Max (disjunctive ranking)

When the root-final consonant is nasal *n* such as TENUĪ > *tenwi > tenni (> tenne), we need an additional constraint that dominates the SCL. The reason is that *ten.ni* is less harmonic than *ten.vi* in terms of the SCL.

- Agree(place)[nas]-[obst]: the place of articulation of nasal must agree with that of the following obstruent

/tenwi/	STW	Agree(place)[nas]-[obst]	SCL	Dep	Max
☞tén.ni			0	*	*
tén.vi		*!	-1		

Tab.3: Agree(place) [nas]-[obst] >> SCL

4.3 Strengthening of *w to v

- Ident-IO (manner): manner of articulation must be identical between the input and the output

/parwi/	STW	SCL	Dep	Max	Ident-IO (manner)
☞pár.vi		-3			*
pár.ri		0!	*	*	
pár.wi		+1!			
pá.rwi	*!				
pár.rwi		0!	*		
pá.ri	*!			*	

*C[-velar]w	Max	*Comp Ons
*!		*
*!		*
	*	

Tab.4: SCL >> {Dep, Max, Ident-IO(manner)}

5. Conclusion

(1) In transition from Vulgar Latin to Italian, faithfulness constraints (Dep, Max, Ident) demoted below markedness constraints (STW, SCL etc.) in the ranking

(2) A more harmonic candiate to the SCL as a relational constraint is selected as the optimal, unless it violates any other constraints that dominate the SCL

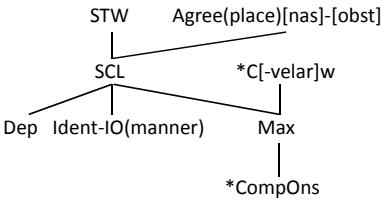

Fig.3: The definitive constraint ranking

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