

Constraint Rank Border Crossing (and West-Germanic typology)

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I. Contrast in resyllabification across word boundaries between Northern (Netherlands) and Southern (Belgium) Dutch,

In Northern as well as in Southern Dutch, a glottal stop (in some cases: a homorganic glide) is inserted in hiatus position if the second vowel is stressed :

(1) beamen [bə'ʔa:mən] ‘acknowledge’ (/bə+/, verbal prefix, /+ən/, infinitival ending)

- If a stressed syllable starts with a vowel, a glottal stop is inserted.
- A phonetic glottal stop (glottal stop is not phonemic in Dutch) can only occur in the onset of a syllable. Therefore, its occurrence can serve as an indicator for the location of a syllable boundary.

(2) In Northern Standard Dutch, final consonants of prefixes and initial particles do not resyllabify into the onset of a second syllable if the root starts with a vowel (‘prefixes are non-cohering’, Booij 1995, 2002):

- uit[ʔ]eindelijk ‘final(ly)’ (*uit*, ‘out’; *einde* ‘end’; *-lijk*, adjectival suffix)
- ver[ʔ]armen ‘empoverish’ (*ver-*, verbal prefix; *arm* ‘poor’; *-en* infinitival suffix)
- on[ʔ]eens (adj.) ‘in disagreement’ (*on-*, ‘un-’; *eens* ‘in agreement’ (adj.))
- ver[ʔ]ont[ʔ]achtzamen ‘neglect’ (*ver*, *ont-*, verbal prefixes; *acht* ‘to take notice’; *-zaam*, adjectival suffix; *-en* infinitival suffix)
- on[ʔ]afhankelijk ‘independent’ (*on-*, ‘un-’, *af-* ‘off’, *hang/k* ‘hang’, *-lijk*, adj. affix)

This is also true for derivations with the vowel-initial adjectival suffix *-achtig*:

- berg[ʔ]achtig ‘mountainous’ (*berg* ‘mountain’; *-achtig*, adjectival suffix)

(3)	underlying form	Northern Dutch	Southern Dutch
a. uiteindelijk	/œyt+eində+lək/	[œyt.'ʔein.də.lək]	[œy.'tɛin.də.lək]
b. verarmen	/vər+arm+ən/	[vər.'ʔar.mən]	[və.'rar.mən]
c. oneens	/ɔn+e:ns/	[ɔn.'ʔe:ns]	[ɔ.'ne:ns]
d. verontachtzamen	/vər+ɔnt+axt+za:m+ən/	[vər.ʔɔnt.'ʔaxt.sa:mən]	[və.rɔn.'taxt.sa:mən]
e. onafhankelijk	/ɔn+af+haŋ+lək/	[ɔn.ʔaf.'haŋ.kə.lək]	[ɔ.na.'faŋ.klək]
f. bergachtig	/berɣ+axtəx/	[ʔberx.ʔax.təx]	[ʔber.ʔax.təx]

Notice that in (3e) the *f* is onset position of the third syllable in Southern Dutch, while the *h* is not deleted. In (3f) we see an additional indication for the contrast in syllabification: in Southern Dutch, the final voiced obstruent /ɣ/ of the initial morpheme /berɣ/ has not undergone syllable final devoicing, while in Northern Dutch it comes out as voiceless [x]. This independently confirms that this segment is in onset position in Southern Dutch.

==> There is no mention of this ‘error’ in the corrective pronunciation guide for Dutch-speaking Belgians by Blanquaert (1934) (Northern Dutch is/was the norm for Belgium), nor in *any* other source in the literature.

II. Contrast in vowel deletion (clitic pronouns, articles)

- (4) het is /ət ɪs/ [tɪs] (Northern and Southern Dutch)
in Northern Dutch also: [ətɪs]
- (5) a. was het /vas ət/ [vasət]~[vazət] *[vast] (Northern Dutch) ‘was it’
b. was het /was ət/ [wast] (West-Flemish) ‘was it’
- (6) de engelen [də.ʔɛ.ŋə.lə] (Northern Dutch), [dɛŋ.lɪŋ] (West-Flemish) ‘the angels’
- (7) a. dat ik /da ɪk/ [dɔk] (West-Flemish) ‘that I’ (/dat ɪk/ [datɪk] in Northern Dutch)
b. ik hoor /ɪk o:r/ [ko:r] (West-Flemish) ‘I hear’ (/ɪk ho:r/ [ɪkho:r] in Northern Dutch)

III. Explanation: difference in constraint order

ALIGN: word boundaries and derivational morpheme boundaries must coincide with syllable boundaries

ONSET: syllables must have onsets (or, in another version, syllable onsets must be filled)

Table 1: Southern Dutch

Candidates	ONSET	ALIGN
(.ɔn.)(.e:ns.)	**	
☞ (.ɔ.)(.ne:ns.)	*	*

Table 2: Northern Dutch

Candidates	ALIGN	ONSET
☞ (.ɔn.)(.e:ns.)		**
(.ɔ.)(.ne:ns.)	*	*

Table 3: West-Flemish

Candidates	ONSET	ALIGN
(.ɪk.)(.o:r.)	**	
☞ (.ko:r.)		**

IV. Question: What are the origins of the contrast in syllabification and vowel deletion between Northern Dutch and German on the one hand and Southern Dutch on the other?

Hypothesis: the observed behaviour of Southern Dutch with respect to syllabification and vowel deletion in pronouns is due to the influence of Romance dialects.

Arguments:

- (i). Dutch and French have cohabitated for centuries, among others in the Southwestern part of the historical province of Flanders, e.g. in Kortrijk (Courtrai), Ieper (Ypres) and Lille (Rijsel).
- (ii) A number of phonological phenomena are known to have crossed the Germanic-Romance linguistic border in present-day Belgium and Northern France; in addition certain developments in neighboring Romance and Germanic dialects have taken place simultaneously.

Five phenomena mentioned by De Schutter (1999):

- i. Final devoicing (a steady feature of Dutch and German), showing up in French and Picardian (*herbe* ‘grass’ is pronounced with a final [p] in Romance dialects of Northern France as well as of North-Eastern France and Wallonia), which constitutes an influence of Germanic onto the Romance dialects;
- ii. The breaking of vowels (like in Fr. *fièvre*, *pièce*) (in other words the development of rising diphthongs, a historic process that has taken place in large parts of the Romance linguistic area), which has given rise to the breaking /a/ before /r/ + dental plosive in Southern Dutch dialects: *paard* ⇒ [p(j)ɛ:(r)t] ‘horse’;
- iii. The (re)occurrence of /h/ as a phoneme in Walloon dialects, due to Germanic influences;
- iv. Palatization (fronting) of vowels (like in Fr. *mur* [myr] and Du. *muur* (in both cases: < Lat. *murus*), South Western Dutch *veugel* [vøʏəl] ‘bird’ < *vogel* [vøʏəl])
- v. Lenition of dental consonants (like Fr. *feuille* [føɛj] ‘leaf’, < Lat. *folia*), South Western Dutch diminutive /+tʃə/ (< /+kə/).

A sixth phenomenon is mentioned by Ryckeboer (2004:44) for the variety of West-Flemish spoken in the part of Flanders that is presently located in France, but which pertains to West-Flemish in general:

- vi. The monophthongisation of [au] to [u] before dental or alveolar obstruents. This development is also found in the same period in the neighboring Romance dialect of Picardian.

French syllabifies right through morpheme boundaries stopping only at boundaries above the word level, perhaps phrase boundaries.

- (8) traditional term *enchaînement* (e.g. in Grammont 1922)
il arrive ‘he comes’ [i.la.riv] *[il.a.riv].

- (9) French deletes schwa before as well as after full vowels.
autre ami /otrə ami/ [o.trə.mi] ‘other friend’
jolie /ʒoli+ə/ [ʒo.li] *[ʒo.li.ə] (but OK in traditional versification)

Hence ONSET is ranked higher than ALIGN in French.

Conclusion:

The contrast in syllabification *and* in vowel deletion between Northern and Southern Dutch, is the contrast between the orders: ALIGN >> ONSET and ONSET >> ALIGN respectively. In French, the constraint order is also ONSET >> ALIGN. Lots of mutual phonological influences have been attested. It therefore seems natural to assume that the constraint order: ONSET >> ALIGN was adopted by Southern Dutch due to the influence of French and/or Picardian.

V. Cohering and Non-cohering affixes

Assymetries between prefixes and suffixes: *cohering* and *non-cohering* suffixes (Booij 1995, 2002).

Prefixes in (Northern) Dutch are non-cohering:

- (10) a. *onteren* /ɔnt+er+ən/ [ɔnt.ʔe.rən] ‘to dishonour’

Suffixes (except *-achtig* and a few other consonant-initial ones) are cohering:

(10) b. *rodig* /rod+əy/ [ro.dəx] (Northern Dutch) *[rot.ʔəx] ‘reddish’

Three types of solution have been advanced in literature:

- (i) Explanation within prosodic phonology (Booij 1995). The cohering affixes (i.e., most suffixes) are uniformly incorporated into the Prosodic Word which is formed by the base. The non-cohering suffix, i.e., the prefixes and some suffixes rather are adjoined to the Prosodic Word. Which affixes are cohering and which are non-cohering remains a matter of pure stipulation.
- (ii) Analysis based on adjunction on cyclic syllabification and syllable integrity (Van Oostendorp 1994)
- (iii) Different types of alignment constraints or other constraints (Van Oostendorp 2004).

In the analysis above, the difference between cohering and non-cohering suffixes can be represented by replacing splitting up the ALIGN constraint in the constraints ALIGN-L(ef) and ALIGN-R(igh). ALIGN-L says that the left boundary of every morphological word should correspond to the left boundary of a phonological word. ALIGN-R is the mirror image of this.

In the analysis above, the constraint order has to be refined:

Northern Dutch: ALIGN-L >> ONSET >> ALIGN-R

Southern Dutch and French: ONSET >> ALIGN-L, ALIGN-R

VI. A West-Germanic typology

English: Most Germanic prefixes have disappeared. The *n* of *un* is resyllabified into a vowel initial syllable, e.g. in *uneatable*, *ununderstandable*, *unemployment*. Final consonants of Romance prefixes syllabify into the following syllable. Examples: *enable*, *inact* etc. Also, in non-rhotic variants, there is resyllabification of *r* into following vowel-initial syllables:

- (10) a. my father [mai faðə]
 b. my father is [mai faðə.ɪ.ɪz]

Hence: Onset is ranked higher than the ALIGN constraint(s).

German: behaves like Northern Dutch, and seems even more strict in respecting morpheme boundaries. In Dutch prefixes and first elements in compounds in some common words do resyllabify:

- (11) a. Du. *verenigen* /vər+e:nəy+ən/ [və.'re:nə.yən] (~ [vər.'ʔe:nə.yən]) ‘to unite’
 b. Ger. *vereinigen* /vər+ainig+ən/ [vər'ʔai.ni.g+ən] idem
- (12) a. Du. *tandarts* /tand+arts/ ['tan.darts] ‘dentist’ (/tand/ ‘tooth’, /arts/ ‘physician’)
 b. Ger. *Zahnarzt* /tsa:n+artst/ ['tsa:n.ʔartz] ‘dentist’ (/tsa:n/ ‘tooth’, /artst/ ‘physician’)

Hence it seems that the Northern Dutch/German situation (morpheme boundaries are upheld during syllabification of prefixes and compounds) appears to represent the standard situation, whereas the Southern Dutch/English situation appears to represent an innovation.

Frisian:

Visser (1997:273) “a prefix-final consonant does not *have to* (italics mine, hence it apparently *can*, R.N.) undergo resyllabification in the case the prefix is attached to a vowel-initial stem;

ferefterje /fər+ɛftər+iə/ ‘to decline, to go down(hill)’ [...] for instance is regularly syllabified as (fər)_σ (ɛf)_σ (tər)_σ (jə)_σ [...]”

However, my field work shows that resyllabification is standard, this in contrast to Northern Dutch and German:

- | | | | |
|-------------------------------|------------------|-----------------------|---------------------|
| (13) a. N. Du.: onenig | /ɔn+en+əŋ/ | [ɔn.'ŋe.nəx] | ‘in disagreement’ |
| b. Frisian: ûnienich | /un+iən+iŋ/ | [u.'niə.nix] | idem |
| (14) a. N. Du.: oneetbaar | /ɔn+et+bar/ | [/ɔn.'ŋet.bar] | ‘uneatable’ |
| b. Frisian: ûnytber | /un+it+bər/ | [u.'nit.bər] | idem |
| (15) a. N. Du.: oneerlijkheid | /ɔn+er+lək+heid/ | [ɔn.'ŋer.lək.heit] | ‘dishonesty’ |
| b. Frisian: ûnearlikens | /un+er+lək+əns/ | [u.'ner.ləkəns] | idem |
| (16) a. N. Du.: onterven | /ɔnt+ɛrv+ən/ | [ɔnt.'ŋer.və(n)] | ‘disinherit’ |
| b. Frisian: ûnterv(j)e | /unt+ɛrv+jə/ | [un.'tɛr.vjə] | idem |
| (17) a. N. Du.: onteigenen | /ɔnt+eiŋən+ən/ | [ɔnt.'ŋei.ŋə.nə(n)] | ‘expropriate’ |
| b. Frisian: ûnteichenje | /ûnt+eixən+jə/ | [un.'tei.xen.je] | idem |
| (18) a. N. Du.: uiteindelijk | /œyt+ɛində+lək/ | [œyt.'ŋein.də.lək] | ‘final(ly)’ (=3a) |
| b. Frisian: û-tein-lik | /ut+ein+lik/ | [u.'tein.lik] | idem |
| (19) a. N. Du.: onafhankelijk | /ɔn+af+haŋ+lək/ | [ɔn.'ŋaf.'haŋ.kə.lək] | ‘independent’ (=3e) |
| b. Frisian: ûnôfhinklik | /un+hiŋ+lik/ | [u.nəə.hiŋ.klək] | idem |
| (20) a. N. Du.: bergachtig | /bɛrŋ+axtəx/ | ['bɛrx.ŋax.təx] | ‘mountainous’ (=3f) |
| b. Frisian: bercheftich | /bɛrx+ɛftix/ | [bɛr'xɛftix] | idem |

Totally surprising findings: in contrast to every expectation, Frisian behaves like Southern Dutch and English, whose behaviour we supposed were innovations, influenced by French (for both S. Dutch and English). If there is any language which influences Frisian, it is Northern Dutch. ==> Mystery.

What did earlier stages of West-Germanic look like?

References:

- Blancquaert, Edgard. 1934. *Practische uitspraakleer van de Nederlandsche taal*. Antwerpen : De Sikkel.
- Booij, Geert. 1995. *The Phonology of Dutch*. Oxford: Clarendon Press.
- _____. 2002. *The Morphology of Dutch*. Oxford: Oxford University Press.
- Cohn, Abigail. 1989. Stress in Indonesian and Bracketing Paradoxes. *Natural Language and Linguistic Theory* 7, 167-216.
- De Schutter, Georges. 1999. Fonologische parallellen aan weerszijden van de Germaans-Romaanse Taalgrens. *Taal en Tongval* 51, 111-130.
- Grammont, Maurice. 1922. *Traité pratique de prononciation française*. Paris: Lagrave.

- Oostendorp, Marc van. 1994. Affixation and integrity of syllable structure in Dutch. In R. Bok- Bennema, Reineke and Cremers, Chrit (eds.) *Linguistics in the Netherlands 1994*. Amsterdam/Philadelphia: Benjamins, 151-162.
- _____. 1995. Vowel Quality and Syllable Projection. Doctoral dissertation, University of Tilburg.
- _____. 2000. *Phonological Projection. A Theory of Feature Content and Prosodic Structure*. Berlin: Mouton de Gruyter.
- _____. 2004. Crossing Morpheme Boundaries in Dutch. *Lingua* 114, 1367-1400.
- Ryckeboer, Hugo. 2004. *Frans Vlaams*. Tiel: Lannoo.
- Szpyra, J. 1992. The phonology of Polish prefixation. In J. Fisiak and S. Puppel (eds.): *Phonological investigations*, John Benjamins, Amsterdam.
- Visser, Willem. 1997. *The Syllable in Frisian*. Ljouwert/Utrecht: Fryske Akademy/HIL.