Schwa on the border between Dutch and French

Two refutations of supposed effects of language contact, grounded in language-typological history

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Assumptions that will be refuted:

A. Pope (1952) and many others: In the history of French, the reduction of full unstressed vowels to schwa is the result of the Germanic superstrate.

“The Frankish system of accentuation was a strong expiratory one and it was in the intensifying of the weak Latin tonic stress that the Germanic speech-habits, and in particular the Frankish, exercised their strongest influence in pronunciation. Directly resultant were: <...> the reduction, or effacement of the unstressed vowels <...>.” (1952:13)

“Under the influence of the intensified tonic (= expiratory R.N.) stress of the Gallo-Roman period, atonic vowels in every type were ordinarily either effaced or reduced to $e$ (= a, R.N.), <...>”. (1952:112)

B. Noske (2005, 2007): The origin of vowel (schwa) deletion and syllabification across morpheme boundaries in Southern Dutch (as opposed to Northern Dutch) is the result of language contact with French (more precisely an adoption of a specific contrast order from French).

I. Resyllabification and vowel deletion in Southern and Northern Dutch

In Southern (Belgian) Dutch, morpheme boundaries are not boundaries for syllabification, in contrast to Northern (Netherlandic) Dutch:

(1) underlying form    Northern Dutch  Southern Dutch
a. /œyt+einde+lək/    [œyt.'einde.lek]    [œy.'einde.lek]
b. /ver+arm+ən/     [ver.'ar.mən]    [ve.'ar.mən]
c. /on+eːns/       [on.'eːns]    [o.'neːns]
d. /bɛrɣ+ɑx.тек/   ['bɛrɣ.ˌɑx.тек]    ['bɛr.ˌɣɑx.тек]

(2) a. uiteindelijk    ‘final(ly)’    uit ‘out’,    einde ‘end’, -lijk adjectival suffix
   b. verarmen        ‘em’povery’    ver- verbal prefix, arm ‘poor’, -en infinitival suffix
   c. oneenens        ‘in disagreement’ on- ‘un’, eens ‘in agreement’
   d. bergachtig      ‘mountainous’    berg ‘mountain’, -achtig adjectival suffix

In Southern Dutch, schwa, and sometimes other unstressed vowels, can be deleted with much greater ease than in Northern Dutch:

(3) a. (N. Dutch)  was het /ʋɑs#ət/    [ʋɑs.(ʔ)ət]    *[ʋɑst] ‘was it’
    b. (S. Dutch)  was het /wɑs#ət/    [wɑst]    ‘was it’

[ʋɑst] (without a schwa) is possible in allegro speech in Northern Dutch, but not at a normal speech rate, like [wɑst] in the South.

(4) a. (N. Dutch)    dat ik /d ɑt#k/    [dɑt.(ʔ)ɪk] ‘that I’
    b. (S. Dutch)    dat ik /dɑ#ɪk/    [dɑk] ‘that I’

(5) a. (N. Dutch)    ik eet /ɪk#e ʃ/    [ɪk.ʔeʃ] ‘I eat’
    b. (S. Dutch)    ik eet /ɪk#e ʃ/    [keʃ] ‘I eat’
II. A possible Influence of French?

The same constraint ranking in French, cf. \( \text{il arriv} \), l'homme

<table>
<thead>
<tr>
<th>/l̥#arriv/</th>
<th>ONSET</th>
<th>ALIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>.l̥.ariv.</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>.r̥.ariv.</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/l̥#om/</th>
<th>ONSET</th>
<th>ALIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>.l̥.om.</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

(As will be shown, faulty) hypothesis (Noske 2005, 2007): Southern Dutch has imported the constant order ONSET >> ALIGN through a language contact with French, whereas Northern Dutch has retained the order ALIGN >> ONSET.

The situation of Southern Dutch is not unique in West-Germanic: resyllabification of morpheme-final consonants into empty onsets in Luxembourgish (Gilles 2007)

(6) underlying form Luxembourgish Standard German gloss

\[
\text{dann en auto /dɑn+ən+ɑʊtoː/ [dɑ.nə.nɑʊ.toː] [dɑn.ʔɑɪn.ɑʊ.toː] 'then a car'}
\]
\[
\text{wann een /vɑn+eːn/ [vɑ.neːn] [vɛn.ʔɑɪ.nɐ] 'when a'}
\]
\[
\text{wien ass dat /viən+as+daːt/ [viə.nas.daːt] [vɛːɐ.ʔɪst.dɑs] 'who is that'}
\]
\[
\text{Dir op /diŋ+op/ [di.ŋop] [tyŋ.ʔauf] 'door open'}
\]

Also in Swiss German, we find a wide-spread resyllabification across morpheme boundaries (Siebenhaar 2004:428).

III. Syllable and Word Languages

Typological distinction of syllable vs. stress timed languages (Pike 1945, Abercrombie 1967): isochrony between syllables vs. isochrony between stressed elements. This distinction was in acoustic phonetics disproved by measurements of, among others, Wenk & Wioland (1982).

But this typology was revitalised by Auer (1993, 1994, 2001) and Auer & Uhmann (1988), basing themselves on perceptual research by Dauer (1983, 1987). The propose a multifactorial, scalar typology the extremes of which are syllable counting languages (or simply syllable languages) and stress counting languages (or word languages).

<table>
<thead>
<tr>
<th>nr.</th>
<th>criterion</th>
<th>syllable languages</th>
<th>word / accent languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>syllable structure</td>
<td>CV syllables (rarely closed syllables); all syllables equally long</td>
<td>variable syllables type of different complexity, dependent on the stress position; often differences between medial and peripheral syllables</td>
</tr>
<tr>
<td>2</td>
<td>syllable boundaries</td>
<td>well defined, constant syllable boundaries</td>
<td>ill-defined, variable, speech-rate dependent syllable boundaries</td>
</tr>
<tr>
<td>3</td>
<td>sonority hierarchy</td>
<td>sonority hierarchy is obeyed, i.e. maximal sonority difference between C and V</td>
<td>sonority hierarchy is less obeyed, e.g. voicing of intervocalic plosives, assimilations (word internally).</td>
</tr>
<tr>
<td>4</td>
<td>geminates</td>
<td>geminates possible</td>
<td>geminate reduction, except in places where they are morphologically relevant, e.g. in internal compound boundaries e.g. German Schiffahrt [ʃɪ̃fəfɐt] [ʃɪ̃fəfɐt]</td>
</tr>
<tr>
<td>5 stress effects</td>
<td>no / few differences in structure of stressed vs. unstressed syllables</td>
<td>stressed syllables are heavy, unstressed syllables are light</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>6 stress assignment</td>
<td>mostly syllable based; absence of fixed word stress possible</td>
<td>stress assignment (often complex) is morphologically / lexically / semantically determined</td>
<td></td>
</tr>
<tr>
<td>7 tonality</td>
<td>can be present, also on unstressed syllables</td>
<td>if present (which is rarely the case), then only on stressed syllables</td>
<td></td>
</tr>
<tr>
<td>8 phonotactics</td>
<td>regular, stable phonotactics, no positionally determined allophones</td>
<td>word boundary (delimitative) signals positionally determined allophone (initial, medial, final) phonotactic restrictions</td>
<td></td>
</tr>
<tr>
<td>9 vocalism</td>
<td>little discrepancy between strongly and weakly stressed syllables, relatively equal tenseness.</td>
<td>strong discrepancy between en weakly stressed vowel (German, Danish, English). Heavy stress: often difference in length, centralizations (reductions)</td>
<td></td>
</tr>
</tbody>
</table>

According to these criteria, **Modern High German** should be catalogued as a **word language**, while **Modern French** is mostly a **syllable language**. **Southern Dutch** must be located more towards the syllable language end of the scale than **Northern Dutch**, which is more like the word language prototype. This is because of the criteria 11 and 13 in table 1. **Southern Dutch** has vowel deletion and liaison effects, in places where Northern Dutch has vowel retention and glottal stop insertion.

### IV. The History of Germanic

#### i. The History of Dutch

1. **Word boundaries were blurred in the spelling of Middle Dutch**: Van der Wal (1992:131) notes that there are many examples of proclitic and enclitic forms in Middle Dutch (MD) texts. This shows that word boundaries were often not felt:

   (7) MD cliticized forms MD non-cliticized equivalents gloss
   a. tien tiden | te dien tiden | ‘at that time’
   b. darme man | die arme man | ‘the poor man’
   c. hi leidene | hi leide ene | ‘he lead him’

2. **Apocope in the North, but not in the South**: Van Heule (1626) (one of the first grammars of Dutch), notes that **e-apocope** (e.g. steene > steen) happens in Hollandic Dutch (i.e. the Dutch spoken in the historic province of Holland), but not in Southern dialects like Flemish. This shows that in the early 17th century, this type of vowel deletion happened in Northern Dutch, but not in Southern Dutch.

   Apocope can be seen as a vowel deletion under the influence of stress, a charateristical feature of a word language (criterion 11 in table 1).

During the 14th century apocope **proliferates** in Hollandish (the dialect of the county of Holland) (Margit Rem, p.c.). Cf. the following maps given in Van Reenen & Mulder (2003:190-192) for the apocope in zone > zoon ‘son’. (dark = zone, light = zoon)
ii. The history of Germanic in general

Nübling & Schrambke (2004) observe that, using the Auer’s typology of syllable vs. stress counting languages sketched above (see table 1), one can find that there is a scalar difference between the Germanic languages. Swedish, Norwegian and Afrikaans: ‘peripheral Germanic languages’: syllable languages

Danish, German and English: ‘central Germanic languages’: stress languages, with Luxembourgish (and Southern Dutch?) in the middle.

Nübling & Schrambke (2004) mention a number of diachronic processes supporting this view:

i. An ever increasing marking of word beginnings in the course of the history of High German, like the insertion of glottal stops instead of resyllabification, i.e. criterion 13 of table 1 and exactly the point that distinguishes Northern Dutch from Southern Dutch, see (2).

ii. Various syncope processes taking place in the history High German, making it increasingly a language of syllabic complexity (criterion 1), for which Nübling & Schrambke (2004:292-293) cite Werner (1978). Werner shows that these processes are part of a systematic movement towards syllabic complexity in coda position (traditionally called Konsonantenhäufung ‘consonant crowding’).

iii. The presence in Old High German (OHG) of vowel harmony / metaphony (criterion 10) and the loss of its productivity in later stages of High German.

iv. The frequent cliticizations and concatenations of small words OHG (referring to criterion 13 for syllable languages), much like the forms in (7) in Southern Dutch.

v. The degemination of OHG geminates (criterion 4) in Middle High German (MHG).

vi. The appearance of linking elements ‘Fugenelemente’ between morphemes in Early New High German (nowadays highly productive), like in Qualitätsskontrolle, a feature NHG shares with Modern Dutch (kwaliteitscontrole). This is manifestation of a boundary signal for words (hence criterion 13).

To this list, one can add two more diachronic processes, one of which is of particular importance for us here:

vii. The reduction of full unstressed vowels to schwa (criteria 9 and 11) in the transition from OHG to MHG (and between Old Dutch and Middle Dutch).

viii. The advent of devoicing of finals stop in MHG, where the devoicing is absent in OHG. Its function can be seen as the introduction of yet another boundary signal (criterion 13).

Vowel reduction from full vowels to schwa also marks the transition from Old to Middle Dutch and from Old to Middle High German. => In both languages, Dutch and High German, the vowel reduction started around 1050/1100. <=

These processes show that German has indeed moved into the direction of a clear word language.

(Some of these processes, like final devoicing and vowel reduction are absent in certain Bavarian and Alemannic dialects, showing that these dialects are much less word type languages, but rather more like syllable type languages).

Indeed, Nübling & Schrambke (2004:290), basing themselves on Frey (1988) mention that

=> OHG must be catalogued "as being very much of the syllable type". <=
V. Consequences for the history of French

Pope (1952), perhaps the most authoritative handbook on the history of French, establishes a direct link between the Franconian superstrate and the reductions of full unstressed vowels to schwa and the subsequent deletion of some of these schwas, depending on their position. Pope writes (1952:13):

“The Frankish system of accentuation was a strong expiratory one and it was in the intensifying of the weak Latin tonic stress that the Germanic speech-habits, and in particular the Frankish, exercised their strongest influence in pronunciation. Directly resultant were: <...> (b) The reduction, or effacement of the unstressed vowels <...>.” Ibidem, p.112: “Under the influence of the intensified tonic (= expiratory R.N.) stress of The Gallo-Roman period, atonic vowels in every type were ordinarily either effaced or reduced to ə (= a, R.N.), <...>.”

Repeated by several handbooks, e.g. the one by Zink for preparing the agrégation (the poor kids!, having to learn faulty ‘facts’ -:-) (1986:37): “... c’est au cours des IIIe et IVe siècles que la prosodie devient accentuelle. Les Francs, au Ve siècle, lui communiquent un surcroît de vigueur” (== this is totally false! <<==). “[l’intensité de l’accent] tend, en syllabe ouverte, <...> à affaiblir les voyelles atones jusqu’à les faire disparaître.”

Why is it totally false?

As we have seen, the Germanic of that pre-literary period must have been much more oriented towards the syllable type than towards the word type.

1. 5th century Franconian had no strong intensity accent

Consequences: As illustrated in table 1, in a syllable type language, there is little of no difference in structure and vocalic quality between stressed and unstressed syllables (table 1, criteria 5 and 9). It is indeed very questionable whether 5th century Franconian really had a strong intensity accent. The present day dialects of Germanic that are clearly of syllable type have precisely less difference in intensity between stressed and unstressed syllables (like the Wallis (Valais) dialect in Switzerland as noted by Mouton (1941:39-40)).

2. Vowel reduction took place much earlier in French than in Germanic

Also, if Old Franconian had a strong intensity accent, one would expect many instances vowel reductions and syncope in the language. But, as we have just seen, these occurred only in the transition towards Middle High German and Middle Dutch (= Low Franconian), i.e. not earlier than the 11th century. But studies of the history of French phonology, like Richter (1934:202) situate the reduction and subsequent deletion much earlier, between the end of the 4th and the end of the 6th centuries, i.e. at least 5 centuries earlier than in Germanic itself!

3. Final devoicing took place earlier in French than in continental West-Germanic

Also, Old French had final devoicing at a period in which it did not yet occur in Germanic, i.e. in later Gallo-Roman (Pope 1952:98), hence around 800. As we have seen in section 3, final devoicing can be seen as the introduction of a word boundary marker, i.e. a feature of the word language prototype.

4. In the Strasbourg Oaths, French is more consonantal than Franconian

Strasbourg Oaths of 842: the first Old French text is in fact a parallel Old French/Franconian text. If we compare the syllable structure of the Old French text with that of the Old Franconian text, we see a striking result.
If we count the syllables (leaving out the names), one comes to the following results:

<table>
<thead>
<tr>
<th></th>
<th>number of syllables</th>
<th>open syllables</th>
<th>closed syllables</th>
<th>closed syllables ending in an obstruent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old French</td>
<td>103</td>
<td>39 (38%)</td>
<td>64 (62%)</td>
<td>20 (19%)</td>
</tr>
<tr>
<td>Franconian</td>
<td>103</td>
<td>45 (44%)</td>
<td>58 (56%)</td>
<td>19 (18%)</td>
</tr>
</tbody>
</table>

Hence:
In 842, French was more consonantal than Franconian. Old French was more of the word language type than Franconian. The word language type character of Old French has independently given rise to vowel reduction, thus creating schwa.

The subsequent reversal in the development of French (i.e. the perpendicular motion, see Jacobs 1989) has turned it into a syllable language and has eliminated the existence of vowel reduction (criterion 11), leaving schwa as a separate phoneme. However, the deletability of schwa remained, because it fits nicely in the strategies for syllable optimization typically employed by syllable languages.

VI. Conclusion

By investigating the typological development of West-Germanic and of French, two assumptions in the literature concerning the influence of language contact were refuted, i.e.:

(i) the hypothesis that the language contact with French caused syllabification across word boundaries and vowel deletion in Southern (Belgian) Dutch;

(ii) the (received) idea that the language contact with Germanic (Franconian) caused vowel reduction in French.

VII. Moral

One should not indulge too quickly in invoking language contact when trying to explain language change. Before doing so, one should study carefully the histories of all languages involved.

Thank you!
References:


