

# **Achteroetkalle: A Dutch ludling**

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with corrections as provided by Theo Maes



Figure 1. The Steijvers family around 1946, with Hense Koeëb, Mieke Steijvers and Frenskes Betje seated left to right in the front row and Truij Steijvers standing centrally in the back row. By courtesy of Mrs. M. van Hooff-Steijvers.

## 1. Introduction

On my wanderings in the Belgian-Dutch border area I often arrive at places that are rarely visited by other researchers and where remarkable things can sometimes be witnessed. One of these is *Stramproyer Achteroetkalle*, a ludling that was used by the members of a family that ran a public house near the border post just south of the village of Stramproy during the 20<sup>th</sup> century smuggling heyday (see Figure 1)<sup>1</sup>. It was used for topics that bore on illegal imports in the presence of people who were not meant to overhear those conversations, in particular the Dutch and Belgian border police, as well as for communication in the presence of members of the German military during the Nazi occupation between 14 May 1940 and 16 November 1944, in particular at the time when the family were hiding Jews in the house. This ludling is therefore a secret language rather than a language game.<sup>2</sup> While its existence was widely known in the local community, it was not comprehensible to outsiders, not even to those who had been exposed to it on more than one occasion.

The term *Achteroetkalle* ('speak backwards') readily reveals where the key to this secret language is to be sought. The phrase 'speaking backwards' has many interpretations, which may be given by three dimensions: the *reversal window*, the *reversal element* and the *reversal template*. The reversal window determines the domain over which speech is mirrored in time, or spatially, if reference is to writing. An obvious reversal window is the word. The reversal unit determines the phonological elements that are to be reversed. Frequent reversal units are the

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<sup>1</sup> Stramproy is part of the Weert municipality. The pub, *Hense Koeëb*, was run by the Steijvers family and stood across the road from the *Hollands Kantoer*, the Dutch customs office. Hense Koeëb and Frenskes Betje, the parents of the two consultants on which this account is based, were the second generation using the ludling. At the time of writing, four children of their large family were still alive, Truij, Jan, Lei and Mieke. *Achteroetkalle* was used until 1971, when the pub was sold. It has been replaced by a new building with a restaurant of the same name. Its address is Frans Strouxstraat 38, 6039 GK Stramproy.

<sup>2</sup> The word ludling is a contraction of Latin *ludus* 'play, game' and *lingua* 'language' (Crystal 2011).

syllable and the segment. A well-known example of a syllabic reversal unit is Verlan ([vɛR.lã]), the French ludling (or ‘argot’) whose name is an output form of *l’Envers* [lã.vɛR] ‘the reverse’. The string of reversal units is not necessarily exhaustive within the reversal window. It is the reversal template that circumscribes the part of the representation within the reversal window from which the reversal units are selected. The well-known Kinshingelo, a ludling of Kingala (Coupez 1969), has the word as its reversal window, the syllable as the reversal unit and the segmental structure of the final two syllables as the reversal template. The word remains intact up until the penultimate syllable, while the tone structure and the durational structure in the last two syllables remain unchanged. A monosyllabic word is identical to its input, because there is only a single syllable. To illustrate, (1b) gives the Kinshingelo version of the Kingala sentence in (1a).

- (1) a. *bâ:nábákàjí bâ: mú kóngò bãtèmâ: kúdí má*  
       ‘The Congolese women love to cultivate the land’  
       b. *bâ:nábájikà. bâ: mú ηgókò bãmàtê: kúmádi*

An extreme form of speaking backwards has the speech turn as its reversal window, the more or less stationary phonetic feature as the reversal unit, and an exhaustive reversal template. A recording of an utterance produced in that way is in principle comprehensible when played back backwards. Unsurprisingly, no cases of this extreme form exist as standardized ludlings.

The specifications of these three aspects in the case of Achteroetkalle will emerge in the course of the discussion. Approximately, the reversal window is the syllable with a vowel other than schwa plus any following syllables with schwa. The determination of the reversal unit and reversal template is less straightforward, and will be attempted in Section 2.1. For now, it is noted that the ludling leaves the foot structure intact.

The grammar of Achteroetkalle was applied to the dialect of Stramproy, but can equally be applied to standard Dutch. The forms in this contribution were elicited from two daughters of the family, TL and MS, aged 88 and 75 at the time of the elicitation sessions in 2012 and 2014 respectively. The transcriptions of the dialect forms are impressionistic, and no prior phonological analysis was performed. For the phonology of what must be a closely related dialect, see Heijmans and Gussenhoven (1998).

## 2. CVC words

At first sight, the basic pattern of Achteroetkalle is the reversal of the segments in the word, as in (2a,b). In these and further examples, the word is identified with the help of the standard Dutch spelling. The first transcription is the input form, the second the Achteroetkalle form. When the input form is not standard Dutch, this is indicated after the input form.

- |     |    |            |       |       |        |
|-----|----|------------|-------|-------|--------|
| (2) | a. | <i>kom</i> | [kɔm] | [mɔk] | ‘bowl’ |
|     | b. | <i>mok</i> | [mɔk] | [kɔm] | ‘mug’  |

A consideration of additional monosyllabic words reveals a rich phonological grammar, which is generally interpretable as the grammar of Dutch extended with a set of constraints that conspire (a) to ensure an appropriately large difference between the input form and the Achteroetkalle form, and (b) retain distinctions between input forms. The grammar of Dutch is readily illustrated by the application of AUSLAUTVERHÄRTUNG (Trommelen and Zonneveld 1979). While the input forms in (3a,b,c,d) begin with voiced obstruents, the output forms end in their voiceless counterparts. Examples (3a,b) therefore derive from intermediate reversed forms [fiiv] and [sæz]. To illustrate the motivation to have outputs that differ sufficiently from inputs, (3a,b) show how output forms that would be identical to the input form are subject to a constraint that prohibits identical C’s in CVC, \*C<sub>i</sub>VC<sub>i</sub>. The interpretation of Achteroetkalle VC forms thus involves a restoration of the onset by means of a copy of the coda consonant to the onset. The motivation to keep outputs

distinct is illustrated by the way input forms consisting of CV syllables are provided with an onset [j], so as to prevent the generation of \*VC, which might incorrectly be assigned to a CVC input form. This glide insertion in onsets that would otherwise be empty is shown in (3c,d). Observe that an output form \*[ɛip] for (3d), for instance, would be ambiguous between inputs [bɛi, pɛi, pɛip] and [bɛip] (where only [bɛip] is a nonexistent word). Glide insertion is not entirely consistent, and never occurs before [aa]<sup>3</sup> or the centring diphthongs [iə, yə, uə], the latter exception being due to the absence of \*[jiə, jyə] in the dialect. Finally, [h] is ignored, which is not a licit coda, as shown in (3f).

(3)	a.	<i>vijf</i>	[viif] (S)	[iif]	‘five’
	b.	<i>zes</i>	[zæɓ]	[æɓ]	‘six’
	c.	<i>zee</i>	[ziə] (S)	[iəs]	‘sea’
	d.	<i>bij</i>	[bɛi]	[jɛip]	‘bee’
	e.	<i>toe</i>	[tu]	[jut]	‘to’
	f.	<i>heel</i>	[heel]	[lee]	‘very’

Examples (4a,b,c) again show how underlyingly voiced obstruents in the coda have voiceless onset consonants in the output. Although the input singular forms have voiceless surface obstruents, they derive from voiced obstruents, as shown by the plurals [ˈdaayə], [ˈlidərə] and [ˈblaadə], respectively. Unexpectedly, this is not consistently true for the velar fricative. Example (4d), the singular of [ˈvliyə], represents a spontaneous offering of alternative forms by speaker TL, while speaker MS offered the voiced fricative. Conceivably, the variation is the result of two rival strategies, one which reconstructs the underlying voiced coda obstruent in the onset of the output and one which inserts the surface voiceless coda consonant of the input in the onset of the output. In addition, forms (4b,c,d) show that Schwa-INSERTION applies as in input forms (Trommelen and Zonneveld 1979).

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<sup>3</sup> The output form [jaaləf] is used for *vla* [vlaa] ‘cow pad; custard’ and *vlaai* [vlaaj] ‘pie’, and goes back to a form in [j] in all three meanings.

(4)	a. <i>dag</i>	[dax]	[xat]	‘day’
	b. <i>lied</i>	[lit]	[til]	‘song’
	c. <i>blad</i>	[blat]	[ˈtaləp]	‘leaf’
	d. <i>vlieg</i>	[vlix]	[ˈxiləf] or [ˈɣiləf]	‘fly, insect’

The dialect has both diphthongs and rimes consisting of long or short vowel plus [w, j]. As expected, Achteroeckalle treats these differently. Diphthongs are single phonological segments, as shown in the standard Dutch form (3d)<sup>4</sup>, while rimes consisting of a vowel and a consonantal glide ([j] or [w]) pare off the glide (vgl. Zonneveld and Trommelen 1980). The rime of the input form in (5a) consists of [i] plus coda-[j], while in the case of (5b), it is [ii] which is provided with an onset [j] to repair the empty onset. (See also (3d); in standard Dutch, (5a) and (5b) are homophones.) As an alternative to [j], prothetic [w] may occur before [u], as in (5d).

(5)	a. <i>bij</i>	[bij] (S)	[jip]	‘at, near’
	b. <i>bij</i>	[bii] (S)	[jiip]	‘bee’
	c. <i>roe</i>	[ru]	[wuur]	‘rod’

### 3. Clusters

Examples (4c,d) already illustrated that onset clusters are reversed in the coda of the output form. One way of looking at these data is that there are two operations to be discerned that bear on the reversal unit. First, [br] and [f] are transposed and second, [br] is reversed to [rb], later [rp]. That, a form like \*[frip], in which the consonants are strung together and arbitrarily divided over coda and onset, would be ungrammatical. However, a simpler way of describing these facts is to take the reversal unit to be the phonological segment, i.e., vowels as well as consonants, and the reversal template to be the entire syllable. That is, (6c) [bril] goes to [lirb] by string reversal. In this simpler analysis, which is here adopted, the descriptive challenge will appear to be the definition of the reversal template.

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<sup>4</sup> The dialect form is [jep], from [bej].

Reversals of onset clusters generally appear to be good coda clusters, as in the case of onset clusters with a liquid in pre-vocalic position, as again shown in (6a,b,c,d). It is also true for [kn] onsets, as shown in (6e,f). Here, the place of articulation of [n] is preserved: an impossible \*[nk] in the output form is homogenized with the grammar of Dutch by the insertion of schwa, not by an assimilation of [n] to [ŋ]. The mirror image of [sC/zC]-clusters, too, may transfer to the coda, as in (6g,h).

(6)	a. <i>draai</i>	[draaj]	[jaart]	‘turn’
	b. <i>vrouw</i>	[vrɔw] (S)	[wɔrɛf]	‘woman’
	c. <i>bril</i>	[brɪl]	[lɪrɛp]	‘spectacles’
	d. <i>vloei</i>	[vluj]	[julɔf]	‘cigarette paper’
	e. <i>knie</i>	[kni]	[jinək]	‘knee’
	f. <i>konijn</i>	[kniin] (S)	[ninək]	‘rabbit’
	g. <i>stop</i>	[stɔp]	[pɔts]	‘stop’
	h. <i>zwem</i>	[zwym] (S)	[myws]	‘swim’

Onset [ɣr] is treated differently by the two consultants. Speaker TL treats it exceptionally in words with a postvocalic [n]. Here, it is [n] and [r] that switch positions, while [ɣ] is replaced with [k], as shown in (7). It is unlikely that the motivation behind this exceptional treatment is that a regular form like [naarɔx] for *graan* breaks the three-mora constraints for Dutch rimes, with a generalization to cases where the vowel is monomoraic. This constraint does not appear to be generally applicable, as shown by [jaalɔf]. Possibly, the motivation for introducing a special rule for this cluster may lie in the avoidance of detection of the basic rule of the ludling. By contrast, speaker MS confidently treats these words regularly.

(7)	a. <i>graan</i>	[ɣraan]	TL [knaar], MS [naarɔx]	‘grain, cereals’
	b. <i>groen</i>	[ɣryyn] (S)	TS [knyyr], MS [nyyrɔx]	‘green’

As said, reversals of onset clusters generally make licit coda clusters, but reversals of coda clusters rarely make good onset clusters. Grammatical reversals arise

generally for clusters of liquid and non-coronal obstruent. In (8), a number of examples are given. As expected, the inserted schwa in those clusters is ignored, showing that this schwa does not project a syllable. Strikingly, the only deviation from input phonology is the suspension of the constraint on syllable final lax vowels, as in (8a,b).

(8)	a. <i>elf</i>	[æɫəf] (S)	[flæ]	‘eleven’
	b. <i>elk</i>	[elək]	[klɛ]	‘every’
	c. <i>werk</i>	[wɛrək]	[krɛw]	‘work’

Another coda cluster that is reversed as onset cluster is [ŋk], which gives [kn], showing that the velar nasal is treated as an assimilation of [n] to [k], as in (9a,b). Final [ŋ] is treated as underlying [ŋɣ], and yields an onset [ɣn], as in (9c,d).

(9)	a. <i>jong</i>	[jɔŋk] (S)	[knoɣ]	‘young’
	b. <i>klank</i>	[klaŋk]	[knaɫək]	‘sound’
	c. <i>jongen</i>	[joŋ] (S)	[ɣnoɣ]	‘boy’
	d. <i>zing</i>	[ziŋ]	[ɣniɫs]	‘sing’

Other clusters are decomposed. Coda clusters in ending in [s], [t] or [c] retain that consonant in final position, regardless of whether the reversed sequence would make a good onset. Example (10a) shows that in these cases only the first coda consonant goes to the onset of the output form. Thus, although \*[slɪp] as an output for *pils* would be well-formed, the correct output is nevertheless [ɪps]. While in the case of (10b), the retention of final [t] can be motivated by the ill-formed \*[tsak] which would result if [t] was included in the reversal template, this cannot be the overriding principle. Rather, a generalized exemption of post-consonantal final obstruents applies. Examples (10d,e) make the same point as (10a,b), but here we see that [st]/[ts] coda clusters are retained. Even though in the case of (10d) \*[stra] would result if coda [rts] were reversed as onset [str], a grammatical onset, the coronal clusters are left out of the reversal template. Case (10f) shows a stop-insertion

which has not been further investigated. Finally, empty onset yields a nil result before the retained coda consonant, as shown in (10c,d).

(10)	a. <i>pils</i>	[pɪls]	[lɪps]	‘lager beer’
	b. <i>kast</i>	[kast]	[sakt]	‘cupboard’
	c. <i>acht</i>	[axt]	[xat]	‘eight’
	d. <i>arts</i>	[arts]	[rats]	‘doctor’
	e. <i>rechts</i>	[rɛxts]	[ɣerts]	‘righthand’
	f. <i>rups</i>	[rups] (S)	[purts]	‘caterpillar’

Example (11a) illustrate how post-nasal [p] cannot be treated like post-nasal [k], since it would yield an ill-formed onset if it was. This is true for occurrences other than after a liquid, see (11b).

(11)	a. <i>lamp</i>	[lamp]	[malp]	‘lamp’
	b. <i>wesp</i>	[wesp]	[sɛwp]	‘wasp’
	c. <i>warm</i>	[wɛrm] (S)	[mə'rɛw]	‘warm’

The behaviour of co-occurring onset and coda clusters is shown in (11a,b). Examples (12a,b) leave final [t] in position, as expected, and (11b) shows how the palatal nasal is treated as an assimilation to the final palatal plosive. By contrast, liquid+sonorant coda clusters are resyllabified after reversal, as shown in (11c). Here, retention of [m] would yield [\*rɛwm], which output is ungrammatical by the phonology of Dutch.

(12)	a. <i>kracht</i>	[kraxt]	[xarəkt]	‘power’
	b. <i>schrift</i>	[ʃrift] (S)	[firʃt]	‘exercise book’
	c. <i>grond</i>	[ɣrɔŋc]	[norəxc]	‘ground’

Cases where the retained final consonant comes to feed DEGEMINATION are shown in (13). In (13a), final [s] comes to abut the transposed initial [s] in *Achteroetkalle*,

while the same is true for [t] in (13b). Similarly, (13c) derives from intermediate [nɛcc], a product of [nɛtc].

(13)	a. <i>slaafs</i>	[slaafs]	[faals]	‘slavishly’
	b. <i>tand</i>	[tant]	[nat]	‘tooth’
	c. <i>tanden</i>	[tɛɲc] (S)	[nɛc]	‘teeth’

The above account is not exhaustive. There appear to be lexical exceptions, like [trɛɛpt] instead of expected \*[trɛɛp] for *paard* [pɛɛrt] (S) ‘horse’, where the coda [t] is duplicated in the onset.

This section has presented data that allow us to conclude that the basic pattern in Achteroetkalle involves a reversal of the phoneme string in monosyllabic words which encompasses the onset, the vowel and the first consonant of the coda. A second coda consonant is included in the string if the first is a liquid and the second non-coronal or if the first is nasal and the second velar. This string thus is the reversal template, while the reversal unit is the phoneme. Grammatical Achteroetkalle forms that are ungrammatical by the usual rules of the dialect appear to be restricted to syllable-final lax vowels. Velar fricatives variably appear as voiced or voiceless in the onset, without regard to whether AUSLAUTVERHAERTUNG was applicable in the input form. Onset cluster [ɣr] is treated as an exception by one consultant, which was explained as a detection risk limitation.

#### 4. Following schwallables

The first observation concerning polysyllabic forms is that following syllables headed by schwa, schwallables (Kager 1989), allow their onsets to be included in the reversal template. This is not only seen in (14a,b), where the consonant is ambisyllabic (van der Hulst 1985), but also in (14c,d), where it is exclusively in the onset. Examples (14e,f,g,h) show that the syllable template potentially extends up to the first schwa, and that the treatment of the last consonants is as in monosyllables.

The reversal template in (14e) is [vark], while that in (14f) is [smøk], giving [krav] and [køms], respectively. The second observation is that in (14g,h), [t]/[d] and [s]/[z] are left out of the reversal template, just as would be the case if, say, [veert] were a monosyllabic word. Because AUSLAUTVERHAERTUNG appears to be inapplicable, given the [v] in (14e), the [t] for [d] in (14h) must be due to the condition that plosive clusters are voiceless (Zonneveld 1983).

(14)	a. <i>lachen</i>	['laxə]	['xalə]	‘to laugh’
	b. <i>stoppen</i>	['stɔpə]	['pɔtsə]	‘to stop’
	c. <i>moeder</i>	['mujər] (S)	['jumər]	‘mother’
	d. <i>suiker</i>	['sœykər]	['kœysər]	‘sugar’
	e. <i>varken</i>	['varkə]	['kravə]	‘pig’
	f. <i>smokkelen</i>	['smøkələ]	['kømsələ]	‘smuggle’
	g. <i>veertig</i>	['veertəx]	['reeftəx]	‘forty’
	h. <i>kelder</i>	['kældər]	['lɛktər]	‘cellar’
	i. <i>dorsen</i>	['dørsə]	['røtsə]	‘to thresh’

This treatment of schwallables allows regular morphology to apply to Achteroetkalle. The plural of (6e) ['jinək] is ['jinəkə] ‘knees’, that of (7e) [nat] is ['natə] ‘teeth’. Achteroetkalle diminutives similarly take the inverted form as their base, meaning that ['jinək] and [nat] diminutivize as ['jinəkskə] ‘little knee’ and ['nacə] ‘little tooth’, respectively: after coronals, [cə] is used, elsewhere [kə]. with preceding [s] whenever the base ends in a velar consonant. Diminutive inputs are stripped of the suffix before the template is applied, meaning that (15a) and (15b) are treated differently. Example (15a) is a shortened form of the diminutive of *Marie* [ma'ri] ‘Mary’, i.e. [ma'rikə], while (15b) is the plural of [zeek] ‘sick’. Although I don’t have those data, this also suggests that *P's* [pees] ‘Ps’ and *pees* [pees] ‘tendon’ are treated differently, as [eeps] and [seep], respectively. The input stem in (15c) is [mɛx], requiring [skə] for the diminutive suffix. The output form uses [xɛm] as the base, causing suffixal [s] to be lost. Example (15d) has a base [ɣlɛs], which gives

[sɛɛlx] as the output base. Suffixation with [skə], the appropriate form after velars, yields ['sɛɛlɪxskə], after which [x] is deleted, to give ['sɛɛlɪskə] (15d).

(15)	a.	<i>Mieke</i>	['mikə]	['imkə]	‘Mary’
	b.	<i>zieken</i>	['zeekə] (S)	['keezə]	‘the sick’
	c.	<i>meisje</i>	['mɛɪxskə]	['xɛmkə]	‘girl’
	d.	<i>glaasje</i>	['ɣlɛɪskə] (S)	['sɛɛlɪskə]	‘little glass’

The treatment of onsetless and [h]-initial reversal templates varies with the height of the vowel. In (16a,b), we see that hiatus is tolerated after [a, ɔ], while [ɛ, ɪ] trigger insertion of [w]. Apparently, GLIDE INSERTION, does not apply to opener vowels (vgl. Trommelen and Zonneveld 1979).

(16)	a.	<i>appel</i>	['apəl]	['paəl]	‘apple’
	b.	<i>offer</i>	['ɔfər]	['fɔər]	‘sacrifice’
	c.	<i>honger</i>	['hɔŋər]	['ɣnɔər]	‘hunger’
	d.	<i>elke</i>	['ɛlkə]	['klɛwə]	‘every+INFL’
	e.	<i>emmer</i>	['ɪmər] (S)	['mɪwər]	‘bucket’
	f.	<i>hemd</i>	['hɪmə] (S)	['mɪwə]	‘singlet, shirt’

This section showed that following schwallables are ignored by the reversal template: their onset consonants are treated as if they are part of the preceding full-vowel syllable. However, reversal templates reject final coronal obstruents ([t, d, s, z]). Moreover, as shown by example (15a), *Mieke*, suffixes are kept out of the reversal template.

## 5. Preceding and following fullables

Full-vowel syllables, henceforth fullables, before as well as after the main stress are separate reversal windows<sup>5</sup>. Examples (17) show this for fullables after the main stress. While (17a,b) are arguably treated as compounds, examples (17c,d) are less convincingly compound words. I assume that the two reversal windows in (17c) are [hɔl] and [ɛŋj], which give [lɔ] and [nɛj], respectively, \*[jɛ] being out. Against this analysis, we have (17d), which by the same procedure should give \*[kutna], which form is rejected. The first reversal window in (17d) therefore is [tu], not [tuk]. Moreover, there is an exception to the post-stress reversal window, *boterham* ['bootəram], which gives ['toobəram] 'sandwich, slice of bread'. There are not enough data to further speculate on this part of the grammar.

(17)	a. <i>Limburger</i>	['limbʏrɣər]	['mɪlɣrɣpər]	'Limburger'
	b. <i>veertien</i>	['veertiən] (S)	['reefniət]	'fourteen'
	c. <i>Hollander</i>	['hɔləŋər]	['lɔnɛjər]	'Hollandic Dutchman'
	d. <i>toekan</i>	['tukan]	['jutnak]	'tucan'

In (18), a more consistent picture arises for pre-stress fullables. Other than initial schwallables, examples of which are shown in (18a,b), preceding fullables are reversal windows, as shown in (18c,d,e). As shown by (18b), the preservation of *Auslautverhärtung* in cases in which the reversal template begins with a voiced obstruent is inconsistent. In (15b), we saw that the Achterøetkalle form of .the ['zeekə] (S) is ['keezə], not ['keesə]. Similarly, the plural of [buən] (S) 'bean' is ['nuəbə], not is \*[nuəpə], suggesting an underlying form of /nuəb/ for the singular [nuəp]. Yet, (18b) shows that initial [d] shows up as [t] before a vowel. That same treatment is given to (19b) below. For (18), the final comments are that (18b) has a second reversal template which includes a liquid+[m] cluster, causing [ə] to be inserted to break up illegal onset \*[mr] (cf. (13c)), while (18f) has a first reversal window in which the coterminous reversal template, [a], is vacuous.

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<sup>5</sup> Information by consultant MS only is followed in this section.

- (18)
- |    |                  |                 |              |                 |
|----|------------------|-----------------|--------------|-----------------|
| a. | <i>commiezen</i> | [kə'mizə]       | [kə'zimə]    | 'policemen'     |
| b. | <i>gendarme</i>  | [zən'dərmə]     | [zənmə'rətə] | 'policeman'     |
| c. | <i>soldaat</i>   | [səl'daat]      | [ləs'taat]   | 'soldier'       |
| d. | <i>soldij</i>    | [səl'dei]       | [ləs'jeit]   | 'soldier's pay' |
| e. | <i>chocola</i>   | [ʃukə'laat] (S) | [kuʃə'taal]  | 'chocolate'     |
| f. | <i>alleen</i>    | [a'leen]        | [a'neel]     | 'alone'         |

Of course, words in phrases and compounds always represent separate reversal windows. In (19a,b,c), three compounds are given, while (19d) presents an NP.

- (19)
- |    |                    |                    |                |                    |
|----|--------------------|--------------------|----------------|--------------------|
| a. | <i>moedertaal</i>  | ['mujer taal] (S)  | ['jumər laət]  | 'mother tongue'    |
| b. | <i>onderduiker</i> | ['ɔŋər dəykər] (S) | ['ɣnər kəytər] | 'person in hiding' |
| c. | <i>witte kool</i>  | ['witə 'kool]      | ['trwə 'look]  | 'white cabbage'    |

Schwallables, also when representing morphological words, are never subject to the ludling rules. As in the input language, they cliticize into the prosodic word on the left or are stray syllables attaching to a righthand constituent in the absence of a host on the left. Some examples are given in (20). In (20a), two schwallables appear unchanged, while in (20b), input [də] shows up as [tə] after an obstruent provided by the output of the preposition [van], [naf] (cf. Zonneveld 1983). The opposite situation is shown in (20c).

- (20)
- |    |  |                                     |
|----|--|-------------------------------------|
| a. | <i>De Duitsers komen eraan</i>                       | [də 'prɪysə kɔmə dər 'aan] (S)      |
|    | 'The Germans are coming'                             | [də 'sɪyɪrə mɔkə dər 'naa]          |
| b. | <i>vis van de zee</i>                                | ['ves fan de 'ziə] ( <i>dial.</i> ) |
|    | 'fish from the sea'                                  | ['sef naf tə 'iəs]                  |
| c. | <i>op de deur kloppen</i>                            | [ɔp tə 'døør klɔpə]                 |
|    | 'knock on the door'                                  | [pɔ də 'røøt pɔlkə]                 |
| d. | <i>Gooi het garen maar het raam uit</i> <sup>6</sup> | ['ɣuəj ət 'xaarə maar ət 'raam ut]  |

<sup>6</sup> The example is authentic and spoken just before the house was searched by the Nazi police. The yarn was an incriminating item.

‘Just throw to yarn out of the window’    [ˈjuəx ət ˈraayə raam ət ˈmaər tu]  
(S)

The definition of the reversal window is the fullable plus any following schwallables. According to Trommelen and Zonneveld (1989), a word-initial fullable preceding the main stress represents a foot, as does a word-final closed fullable after the main stress. As I argued elsewhere, neither of these positions is correct: a word-initial syllable before the main stress is stray in Dutch, even when it has a vowel other than schwa and is closed (e.g. [kan] in [kanˈtoor] *kantoor* ‘office’, while a word-final fullable after the main stress is included as the weak branch of the foot with primary stress, again regardless of segmental composition (e.g. [kan] in [ˈtukan], Gussenhoven 1993). However, the assumption of footing of a word-initial stray syllable and a post-stress closed syllable in the analysis in Trommelen and Zonneveld (1989) is supported by the Achteroetkalle data in the sense that its reversal window can be equated with their foot. Indeed, *kantoor* is [nakˈroot] in Achteroetkalle, while [ˈtukan] is [ˈjutnak], as we saw in (17d). However, the arguments in Gussenhoven (1993) against that position are convincing enough to not award foot status to the Achteroetkalle reversal template.

## 6. Conclusion

While a number of Dutch language games may exist that are used for fun,<sup>7</sup> Achteroetkalle is the first secret language to be reported for Dutch. Around the middle of the twentieth century, it was used by a family who owned a pub on the Belgian-Dutch border south of Stramproy. It reputedly was incomprehensible to outsiders. Three elements were identified as defining reversing ludlings. These are the reversal window, the reversal template and the reversal unit. For Achteroetkalle, these were argued to be (i) the fullable plus any following schwallables, (ii) the

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<sup>7</sup> I am familiar only with the ludling that involves the insertion of [əp] after the onset of every syllable, causing [ɪk spreek soo] ‘I speak like this’ to be pronounced as [əpɪk sprəpeek səpoo].

segment string in a fullable up to any schwa, excluding final post-consonantal coronal obstruents or a post-sonorant labial obstruent (for details see Section 3), and (iii) the phonological segment, respectively.

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## References

- Coupez, André. 1969. Une leçon de linguistique. *Africa-Tervuren* 25, 1-5.
- Crystal, David. 2011. *Dictionary of linguistics and phonetics*. Hoboken NJ: John Wiley.
- Gussenhoven, Carlos. 1993. The Dutch foot and the chanted call. *Journal of Linguistics* 29, 37-63.
- Heijmans, Linda & Carlos Gussenhoven. 1998. The Dutch dialect of Weert. *Journal of the International Phonetic Association* 28, 107-112.
- Kager, René. 1989. *A Metrical theory of stress and destressing in English and Dutch*. Dordrecht: Foris.
- Kager, René & Wim Zonneveld. 1986. Schwa, syllables, and extrametricality in Dutch. *The Linguistic Review* 5. 197-221.
- Trommelen, Mieke & Wim Zonneveld. (1979). *Inleiding in de generatieve fonologie*. Muiderberg: Coutinho.
- Trommelen, Mieke & Wim Zonneveld. (1989). *Klemtoon en metrische fonologie*. Muiderberg: Coutinho.
- van der Hulst, Harry. 1985. Ambisyllabicity in Dutch. In Hans Bennis & Frits Beukema (eds.), *Linguistics in the Netherlands 1985*, 57-66. Dordrecht: Foris.
- Zonneveld, Wim & Mieke Trommelen. 1980. Egg, onion, ouch! On the representation of Dutch diphthongs. In Wim Zonneveld, Frans Van Coetsem & Orrin Warner Robinson (eds.), *Studies in Dutch phonology*, 265-292. Martinus Nijhoff, The Hague.
- Zonneveld, Wim. 1983. Lexical and phonological properties of Dutch voicing assimilation. In Marcel van den Broecke, Vincent van Heuven & Wim Zonneveld (eds.), *Studies for Antonie Cohen: Sound structures*, 297-312. Dordrecht: Foris.