Language Attrition in Dutch Emigrants in Anglophone Canada

Internally or externally-induced change?

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1. Introduction

Investigations of different unstable language systems have traditionally been popular in linguistic research, as "the study of language during its unstable or changing phases is an excellent tool for discovering the essence of language itself" (Slobin 1977:185). In other words, it is when things go wrong that a window on the grammar in the speaker's mind can be provided, giving insights into how language functions when things 'are not quite right' (see Corder 1967). Various fluctuating language systems have been investigated in this tradition, such as varieties arising from historical language change, language contact, and pidginisation and creolisation (Slobin 1977).

   This paper examines the eroding first language system of first-generation emigrants, also referred to as language attrition. In particular, it looks at Dutch spoken by Dutch émigrés in Anglophone Ontario. While studies on Dutch emigrant varieties are available (see Klatter-Folmer and Kroon 1997), detailed investigations of the nature of the deviations found in these varieties vis-à-vis the standard language are lacking. This study aims at addressing this gap. In particular, it investigates whether the changes found in the morphological and syntactic system of the Dutch *émigrés* constitute language-internal or external alterations. For this purpose, three groups are examined: Dutch emigrants in Canada, Dutch controls in the Netherlands and a group of advanced Dutch L1 acquirers (adolescents). The study follows two basic assumptions: language-internal changes are those that are found in both the attriters and acquirers, but not in the control condition. Language-external changes, on the other hand, should only be attested in the emigrant group and not in the two other populations and should be clearly influenced by English.

2.   Theoretical background

Previous work has shown that two forces are at work in language attrition: internal language restructuring and external influences from the dominant language of the new environment (Seliger & Vago 1991). Language-internal changes have been referred to as simplification, regularisation or generalisation (Seliger & Vago 1991:10). Changes brought about by the second language, on the other hand, are typically summarised under headers like transfer, interference or cross-linguistic influence (Seliger & Vago 1991:7). Both phenomena will be briefly discussed in turn.

2.1   Internally-induced language change

Internally-induced change manifests itself most profoundly in the morphological and morpho-phonemic domain (Seliger & Vago 1991:10). A framework that is frequently used to explain internal remodeling is that of markedness considerations; marked forms are more prone to linguistic change (Seliger & Vago 1991:10).

Internal reorganisation can take several forms. First, there is analogical leveling where marked features are replaced by unmarked ones (Seliger & Vago 1991:10). An example of such a change can be found in the regularisation of strong verbs, which may come to follow a weak conjugation (for instance *sinked* rather than *sank* in English, cf. Keijzer 2007:90–92). A second form of internal restructuring is paradigmatic leveling, which constitutes a reduction of allomorphs (Seliger & Vago 1991:11). For example, Dutch has five diminutive allomorphs (for an elaborate discussion of these, see Keijzer 2007:69–71). Paradigmatic leveling might result in a reduction to only one or two allomorphs, presumably the more frequent ones (see Keijzer 2007:73). Third, category leveling can be found, where the number of conceptual categories is reduced (Seliger & Vago 1991:11). For example, the English categories of plural inflection *-s* (as in *book/book-s*) and the possessive marker *-'s* (in *the book's owner*) might be conflated in attriters' writing: the two are no longer distinguished. Finally, internal reorganisation may take the form of category switch, which is essentially the opposite of category leveling. Here, the category is maintained conceptually, but may not be expressed by the correct linguistic form. Most commonly, category switch is characterised by a replacement of synthetic forms by analytic ones (Seliger & Vago 1991:11). Instead of saying *waitress*, speakers may come to express this as *the girl who serves at the restaurant*.

2.2   Externally-induced language change

Attrition may furthermore be characterised by externally-induced change. In fact, it has been claimed that the onset of attrition can be traced to those stages where

speakers reach advanced stages of L2 acquisition (Seliger & Vago 1991:4). Externally-induced language change pertains to all domains and is not confined to morphology, as is often claimed for internal remodeling. Instead, it is also clearly felt in the syntactic domain. Whatever realm it is applied to, research on L2 influence is necessarily concerned with contrastive approaches to language: changes may be expected at those points where the L1 and L2 diverge. Furthermore, L2 influences may be classified along the lines of rule generalisation: an L2 rule is — often incorrectly — applied to the L1 (Seliger & Vago 1991:7).

To illustrate the workings of externally-induced language change, word order in subordinate clauses can be examined. In Dutch subordinate clauses, the verb occurs sentence-finally. In English, on the other hand, the verb follows the subject in both main and subordinate clauses. Dutch attriters in an L2 English environment may thus well construct their Dutch subclauses on the basis of the English model, forming sentences like **omdat hij was ziek* ('because he was ill'), which should be *omdat hij ziek was* in standard Dutch. A more elaborate description of this phenomenon can be found in Keijzer (2007:128–135).

2.3 Previous research on internally and externally-induced change in attrition

There is very little research on the disintegration of inflection and syntax in attrition that has considered both language-internal and external forces, especially studies that have looked at L1 Dutch and L2 English.

For morphology, one notable exception is the work by Smits (1996), who examined language shift among Iowa Dutch speakers. Iowa Dutch is a language variety spoken by Dutch emigrants and their descendants who moved to the prairies of Iowa during the second half of the 19th century and the first half of the 20th. It underwent many synchronic and diachronic changes, but has currently been out of use for more than four decades. Smits examined data from two stages in the morphological dissolution in Iowa Dutch: from 1966 and 1989. In particular, she looked at the NP morphological features of plural inflection, article selection and adjectival inflection. For VP morphology, areas under investigation were the simple present tense, the simple past, past participles and auxiliary selection in periphrastic constructions. Smits found evidence for both internal reorganisation and external influences from English. For example, she found internal remodeling in Dutch plural marking, which distinguishes the regular suffixes *-en* and *-s* and a number of irregular endings, which often involve vowel mutation (see Keijzer 2007:47–49 for an overview) This remodeling took the form of paradigmatic leveling. Iowa Dutch speakers would show overregularisation, attaching the two regular plural endings to irregular contexts as well, for example in *stad (/stat/)*

— *stat(t)-en ([statən])* for *stad ([stat])- sted-en ([ste:dən])* ('cities') (Smits 1996:77). At the same time, the plural suffix *-s*, also found in English, was extended to contexts where prosodic factors would require *-en*: *hek* — **hek-s* or *land* — **land-s* for *hek-(k)en* and *land-en*, respectively (Smits 1996:170). This overgeneralisation most often occurred in contexts where the Dutch noun showed a strong surface resemblance with its English counterpart or in cognates.

No comparable studies are available on the attrition of Dutch syntax, but work of this kind has been carried out for German (cf. Schmid 2002), who looked at the attrition of both syntax and morphology. According to Schmid, the changes in morphology mostly constituted internal restructuring while syntactic deviations from the standard language were mostly L2 influenced, where the word order adhered to the English model.

3.   Methodology

3.1 Subjects

The present study follows a synchronic design where subjects were tested at one point in time and compared to a control group. It has been claimed that the best possible approach to study attrition is by means of a longitudinal design, but this method has its own drawbacks. For example, relatively long time intervals are needed between testing sessions in order to find signs of linguistic erosion (see Jaspaert et al. 1986:39). In the synchronic set-up of this study, a third group of subjects was added, which consisted of Dutch 13 and 14-year old adolescents. Each of these three groups of subjects is discussed in turn below.

A total of 45 first-generation Dutch emigrants in Ontario, Canada were selected to take part in this study. The subjects met a number of selection criteria, which can all be found in Keijzer (2007:147). The most important ones included that subjects had to be at least 15 years old upon emigration from the Netherlands to control for incomplete acquisition and that they should have lived in Canada for at least 20 years to allow a long enough time span for attrition to have set in. This resulted in a group of 21 male and 24 female subjects who had lived in Canada for a mean number of 43.5 years and who had a mean age of 66.4 at the time of testing.

Using a static group comparison, the controls in this study resembled the subjects in Canada as closely as possible. In a number of cases they were siblings of the Dutch-Canadian subjects, but in all cases they were matched to the Dutch emigrants on a one-to-one basis: they all had the same age, gender, educational background and were also born and had grown up in the same region of the Netherlands.

Fewer selection criteria applied to this group, but the control subjects should never have lived outside the Netherlands and could not be language professionals such as translators or language teachers. Consequently, this group also consisted of 21 males versus 24 females who had a mean age of 66.2 at the time of testing.

Finally, a third group was included: 35 Dutch adolescents (20 male and 15 female) with a mean age of 13.9. A dominant idea within linguistics is that the changes due to internal remodeling in emigrants resemble those found in L1 acquisition. This is captured in the regression hypothesis (Jakobson 1941, cf. Keijzer 2007:1–7). The regression hypothesis is also referred to as the 'last in, first out' hypothesis: those features that are acquired late in children are likely to be most vulnerable in attrition. Competition from either a second language (in attrition) or cognitive limitations (in acquisition) is argued to result in similar forms of linguistic breakdown. As attrition is generally a subtle phenomenon that does not result in great losses (see Hansen 1999), advanced L1 acquirers were included in this study. Dutch adolescents can be expected to have nearly completed their L1 acquisition, but there may nonetheless be subtle areas where they still deviate from mature native speakers. In other words, they may show residual optionality (Sorace 2005). In short, the acquisition group was included to check whether the deviations found in the speech of the attriters resembled those of the adolescents, and to establish that these deviations were in fact instances of internal restructuring.

3.2 Materials

The focus of this study was on morphology and syntax, as these two areas leave little room for substantial individual variation. A domain like the lexicon, by contrast, shows much more individual variation: subjects mostly differ with respect to phenomena like lexical choice or code switching. It then becomes increasingly harder to check for internally or externally-induced changes in subjects' repertoires. Within morphology and syntax, 15 features were examined, all of which are known to be acquired relatively late in Dutch-speaking children: for NP morphology the features of plural inflection, agentive formation, adjectival inflection, article selection and diminutive formation were investigated. For VP morphology, the features under investigation were simple present and past tense, past participles, auxiliary selection in periphrastic constructions and the future tense. Finally, for syntax, the study looked at negation, passive constructions, V2, word order in subordinate clauses and discontinuous word order. The last feature pertains to the amount and the nature of the framed material between the finite and non-finite part of the VP in a sentence.

All participants were subjected to an elaborate test battery consisting of a sociolinguistic questionnaire, a C-test to measure overall language proficiency,

can-do scales, a wug test to tap into morphological proficiency, a grammaticality judgment task to measure syntactic proficiency and a film retelling task eliciting semi-spontaneous speech. The whole test battery took between 2 to 2.5 hours to administer. An elaborate description of all these tasks can be found in Keijzer (2007:157–180). Here only the latter three tasks are discussed in detail.

The wug test, created by Berko (1958), was the first formal test to measure productive morphological rule application in young Anglophone children. The two constructs underlying the wug test are nonsense items (to ensure that subjects apply a productive morphological rule) and sentence completion, the latter used to elicit the actual forms. To do this, the original format included pictorial clues, but since no young children were included in the present study, the wug format used here was a written test in which subjects were asked to inflect a nonce item placed in a context sentence. By way of example, (1) contains a written instruction presented to the subjects as part of the wug test, in this case to elicit the diminutive *draampje*.

(1)   Je hebt een **draam**, maar als het klein is heb je een klein….
      'you can have a **draam**, but if it's a small one you have a small…'

The wug test that was included consisted of two parts: one for noun phrase and one for verb phrase morphology.

A second essential task in this design was the grammaticality judgment task, used to tap into syntactic proficiency. Subjects were asked to judge the grammaticality of a given structure by ticking the boxes of *correct*, *incorrect* or *don't know*. When subjects indicated that a sentence was ungrammatical, they were asked to correct it. The structure in (2) is one of several constructions that were judged by the subjects.

(2)   Critici hadden al gezegd dat er veel gegroeid was in het Turkse elftal.
      critics have-PL.PST already say-PTCP that there much grow-PTCP be-SG.PST
      by the Turkish team
      'Critics had already said that the Turkish team had improved greatly.'

Although the grammaticality judgment task has come under close scrutiny in recent years (Keijzer 2007:171–173), it was still included in this study, because it can test a variety of constructions that do not necessarily surface in spontaneous speech. In addition, the grammaticality judgment task is relatively easy to administer and score.

Apart from controlled language tasks, spontaneous speech samples were also collected through the use of a film retelling task (cf. Perdue 1993). All spontaneous data samples were transcribed and converted to CHAT format as used in the CHILDES project (MacWhinney 2000), to allow semi-automatic analyses of

the data samples. In short, this study used two sources of evidence for linguistic changes in attrition: controlled language task data and spontaneously produced speech.

4. Results

For both morphology and syntax, deviations were found in the speech of the attriters compared to the control group. Moreover, a two-way division appeared: morphological changes appeared to be largely due to language-internal remodeling whereas syntactic deviations could be more easily explained by language-external influences from English. These findings support earlier results by Schmid (2002) and, in addition, follow the pattern sketched by Seliger & Vago (1991) (see 2).

Starting with morphology, the NP morphological features that revealed a significant number of deviations in the Dutch Canadian subjects compared to the control group were plural inflection, agentive formation, article selection and diminutive formation. For VP morphology, attriters produced significantly more non-standard simple past tense forms, past participles and future tense instances. The large majority of these deviations were instances of analogical or paradigmatic leveling (see 2), where subjects tended to regularize irregular forms, such as irregular plural forms or strong past tense instantiations, or they showed a reduction in the allomorphs they used. In addition, many of the features under investigation do not have L2 English equivalents (e.g. diminutive formation or specific instantiations of strong past tense forms), and the non-standard forms could therefore not be readily explained on the basis of L2 influence. To show the nature of these deviations in some detail, this paper focuses on the aspect of diminutive formation (for morphology) and V2 and subordination (for syntax). A discussion of the other features can be found in Keijzer (2007).

4.1 Morphology: Diminutive formation

Dutch diminutive formation has been described as a "frequent, productive and fairly regular process" (de Houwer and Gillis 1998:38). It is perhaps also one of the best documented cases of allomorphy in Dutch. Five different diminutive allomorphs can be distinguished: *-tje*, *-je*, *-etje*, *-kje* and *-pje*. The distribution of these allomorphs depends on the phonological properties of the stem to which the allomorphs are attached (Booij 2002:175). Here it suffices to say that the most frequent diminutive suffix is *-tje* (for a more elaborate discussion see Keijzer 2007:69–71). Table 1 presents the mean scores on the diminutive part of the wug test.

Table 1. Mean scores on the diminutive formation part of the wug test (N = 124)

	1:attriters (n = 45)	2: controls (n = 44)	3:acquirers (n = 35)	mean
-tje (max = 4)	2.62	3.98	2.46	3.02
SD	0.58	0.15	0.66	0.46
-je (max = 2)	1.67	1.93	1.97	1.86
SD	0.60	0.25	0.17	0.34
-etje (max = 5)	3.89	4.86	4.11	4.32
SD	1.05	0.35	1.13	0.84
-pje (max = 2)	1.49	1.93	1.23	1.55
SD	0.70	0.26	0.81	0.59
-kje (max = 2)	1.64	1.98	1.80	1.81
SD	0.57	0.15	0.41	0.38

The difference between the three groups was significant, with a medium effect (Wilks' Lambda = .546, $F_{(10,234)}$ = 8.279, $p < .001$, $\eta^2 = .26$), for all five diminutive allomorphs ($p < .001$ in all cases, except for diminutive allomorphs -je and -kje, where $p < .005$). For all allomorphs, the Dutch Canadians produced more deviant forms than the control subjects ($p < .005$ in all cases, except for -je, where $p < .05$). In addition, the children produced fewer standard forms than the subjects in the control group ($p < .001$ for -tje and -pje; $p < .005$ for -etje; $p < .05$ for -kje), but the performance of the attriters and acquirers did not differ significantly. One notable exception is -je, where the children outperformed the Dutch Canadians ($p < .01$). Most deviations were instances of paradigmatic leveling where the dominant suffix -tje was generalised to all contexts, which itself is indicative of internal remodeling (see 2). An example can be found in a nonce word like *draam-tje*, which — on the basis of its phonological form — should select -pje: draam-pje. Interestingly, similar deviations were found in the data of the adolescents.

Although hardly any diminutive-related deviations were found in the free speech elicited through the film retelling task, there was a significant difference between the three groups in the number of times they used diminutives in their narratives: $F_{(2, 122)}$ = 11.811, $p < .001$, $\eta^2 = .19$). In particular, the attriters used fewer diminutives than the controls ($p < .001$), as did the children ($p < .005$), presumably as part of avoidance strategies. However, the attriters and acquirers did not differ

Table 2. Mean number of diminutive occurrences in the free spoken data (N = 125)

	1:attriters (n = 45)	2:controls (n = 45)	3:acquirers (n = 35)	mean
mean number of diminutives	3.20	6.22	3.17	4.20
SD	2.77	4.20	2.75	3.24

markedly from one another (see Table 2). Both groups appeared to describe diminutiveness largely analytically.

4.2 Syntax: V2 and Subordination

For syntax, a different pattern emerged. Here it is important to distinguish between syntactic features that also have a large morphological component (negation and passives) and those that are purely word order phenomena (V2, word order in subordinate clauses and discontinuous word order). For both negation and passive constructions, evidence for internal remodeling was found in the form of analogical leveling. For example, in order to form the passive the word order needs to be changed, with the object now fronting the clause, but the verb also needs to be inflected. Thus, a change is effected from *hij wast* ('he washes') to *hij wordt gewassen* (he become-3SG wash-PTCP — 'he is washed'). While the majority of Dutch passives involves transitive verbs, intransitive forms can also be passivised, resulting in impersonal passives (see Keijzer 2007:116–117). However, in order to create impersonal passives, the verb has to be both telic (have a natural endpoint) and imply a clear agent. What was found in the data of the attriters was that this distinction between transitive and intransitive verbs was not observed anymore, resulting, for example, in an acceptance of a structure like (2) above. However, the intransitive verb *groeien* ('to grow'), does not have a clear agent and therefore cannot be passivised. The adolescents also typically accepted a structure like (2), but hardly any of the control subjects did.

The grammaticality judgment task did not reveal any significant divergences between the three groups on any of the purely syntactic phenomena. In other words, the attriters did not produce more incorrect judgments than the controls or the adolescents. A different tendency emerged when the free speech was more closely examined, however. Here the Dutch Canadians produced significantly more deviations than either the control group or the adolescents, with the latter two not producing different scores.

For example, many V2 violations were attested in the narratives of the attriters. In brief, Dutch finite verbs in main clauses typically occupy the second position (the V2 rule). This also entails that they cannot be preceded by more than one constituent (see Keijzer 2007:121–123). As such, instances like (3) and (4), found in the narratives of the Dutch Canadians, are incorrect (the standard word order is given between brackets).

(3) *en dan Charlie Chaplin staat op (en dan staat Charlie Chaplin op)
     'and then Charlie Chaplin stands up'

(4)*and then de fantasie was over (en toen was de fantasie over)
'and then the fantasy was over'

However, as can be seen from the English glosses, the equivalent order in English is perfectly acceptable. This, and the fact that none of the other subjects — including the adolescents — produced deviations like these, suggests that these structures are influenced by the L2.

Similarly, word order deviations were found in the émigrés' subclauses produced as part of the film retelling task. Contrary to main clauses, the verb in Dutch subclauses is usually placed sentence-finally (see Keijzer 2007:129–130). English, on the other hand, does not make this distinction; the verb continues to follow the subject in both cases (see also 2). It is therefore likely that the structures in (5) and (6) — ungrammatical in Dutch — are influenced by English.

(5) *toen zei die man dat hij had geen geld (dat hij geen geld had)
then say-SG.PST that man that he have-SG.PST no money
'then that man said that he had no money'

(6) *omdat de kioskeigenaar ziet niet de politie (…de politie niet ziet)
because the kiosk owner see-3SG not the police
'because the kiosk owner does not see the police'

5.   Discussion

The division found in this study between morphology and syntax is supported by previous work. For one, earlier studies have found that morphology tends to be more impaired than syntax (Håkansson 1995). Moreover, the fact hat morphology is typically subject to internal reorganisation while syntax is more influenced by external (L2) factors is also in line with the findings by Schmid (2002) (see 2). The next question, then, is what causes this dichotomy.

One obvious answer may lie in the design of this study. The wug test elicited more deviations than the grammaticality judgment task did, but this may be partly due to the nature of the task: during the wug test subjects have to produce words, while grammaticality judgments largely rely on passive knowledge of the language. Production tasks may be more susceptible to mistakes.

A more theoretically-grounded explanation may be that the morphological features included in this study were governed by formal properties like morphology and syntax, but also by semantic constraints. To form a diminutive, you do not only need to select the correct suffix, but be aware of the many different interpretations that come with diminutive forms (smallness, endearment and unimportance to name but a few; see also Booij 2002:107). By contrast, syntactic features like V2 and word

order in subordination are only conditioned on a syntactic level and do not contain a semantic component. It would thus appear that features involving a semantics interface pose problems for emigrants and language acquirers alike. Similar findings have also been presented by Tsimpli et al. (2004), who found more deviations in their group of attriters of Greek and Italian for features on the semantics interface.

It is, of course, also true that the morphological features under investigation typically require a selection of several alternative morphemes (no fewer than 5 in the case of diminutive formation). This puts a strain on the language system, causing reductions or paradigmatic leveling where one — usually the more frequent — morpheme wins out. What is striking is that, in fluctuating language systems where there is a limited processing capacity (acquisition), similar outcomes present themselves. This goes some way towards verifying the regression hypothesis (see 3) that suggests that the order in which language is lost is the reverse of the order of acquisition. It is striking how different sources of competition (another language in attrition and cognitive limitations in acquisition) lead to similar output constraints. Naturally, this does not explain why the features of adjectival inflection, simple present tense and auxiliary selection did not elicit parallels between the attriters and acquirers. In fact, all three groups appeared to perform on the same level here. While still belonging to the class of late acquired features, these three features appear to be mastered at an earlier stage still than the other features under investigation (see Keijzer 2007:76, 107).

6. Conclusion

Having established that attrition is indeed characterised by deviations from the standard language and that these changes tend to be both internally-induced (in the case of morphology) and externally-induced (for syntax), more can be revealed about how language is organised in the mind. For one, morphological information appears to be stored hierarchically, with the topmost layer (the most recently acquired material) being most susceptible to attrition. In addition, features that are governed on one level (such as purely syntactic phenomena like V2 or subordination) are more stable language-internally, but may be influenced by outside factors. In this respect, it may also be illustrative to include other language systems in flux, especially in a comparison of language-internal restructuring. The ultimate aim of investigations into parallels and divergences between, for instance, language acquisition, diachronic language change, attrition, but also pidginisation and creolisation would then be to arrive at a better understanding of the complexity of language, allowing us to make predictions about the nature of internal reorganisation when things 'are not quite right' (see also 1). With that, notions such

as markedness and language universals could be investigated on a more structural basis (Hansen 1999).

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