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# ON THE WEAKENING OF L1 SKILLS IN PROFICIENT BILINGUALS

This paper deals with the extent to which a high level of proficiency in the foreign language ( L2 ) affects the knowledge and use of the mother tongue (L1). There is strong evidence that in a bilingual context extended exposure to the L2 results in the weakening of L1 skills, which is often referred to as L1 attrition. It consists in a restructuring of the L1 that involves mainly transfer and simplification. The paper discusses both processes in the light of research into L1 competence developed by Polish university teachers and students of English as a foreign language.

## Introduction

This paper is an attempt to present, as well as discuss the phenomenon of crosslinguistic interaction in a bilingual environment. To avoid misunderstandings, I would like to stress that it does not focus on negative transfer or interference from the L1 which has been central to SLA studies for the past 30 years or so. Its main concern is a process that has, so far, rarely been a subject of systematic linguistic inquiry, i.e. L1 attrition.

The influence of one language on the subsystems of another has been termed transfer. In a bilingual context, prolonged and extended exposure to the L2 may result in an L2-induced weakening of L1 skills, which is often referred to as L1 attrition. The literature on the subject defines attrition as a form of individual linguistic evolution by which a bilingual experiences changes in (part of) his L1 competence (Andersen 1982: 84). Research carried out to date has revealed that this evolution consists mainly in processes that involve language transfer. They are the following:

- rule generalisation, which covers the extension of an L2 rule to L1, and applies to both syntax and the lexicon (Seliger, Vago 1991: 7);
- loan translation or calquing, which involves literal translation of an L2 phrase or expression into the L1, where it is unacceptable (Seliger, Vago 1991: 7);
- the replacement of a form in L1 with a form from L2, or the incorporation of a form from L2 into L1 when the form concerned is absent from L1;

– higher frequency of use of a form in L1 in contexts where a partially corresponding form in the system of L2 is used either obligatorily or preferentially;
– the loss of a form in L1 when the form has no direct equivalent in L2;
– simplification, which covers the loss or replacement of irregular endings with regular ones (Silva-Corvalan 1991: 153).

In his seminal paper on the nature of language restructuring in L1 attrition Sharwood-Smith (1983b) contends that this process, like transfer in general, is induced by the following factors:

– typological proximity between the L1 and L2, which renders L2 structures linguistically similar to their L1 equivalents, and therefore transferable;
– semantic transparency, which is relevant when L1 and L2 have equivalents but the L2 item is more semantically transparent (Kellerman 1983);
– frequency of use; rare lexical items tend to disappear;
– markedness; in the case of attrition, less marked items are preferred over the marked ones (Arabski 1997 after Kellerman 1983).

A lot of effort has also been put into discovering the sequence of changes in attrition. Researchers working on this issue often resort to Chomsky's theory of language, which distinguishes between performance, i.e. actual language use, and competence. The latter is defined as an internalized system of rules that allow a native speaker of a language to produce and comprehend an infinite number of utterances. It is evident that such a discovery is central to the construction of a theoretical framework for the process in question, since it would enable researchers to determine whether attrition involves temporary performance anomalies, which aim to facilitate production. On the other hand, it is conceivable that attrition results from an internal restructuring of competence.

The conjecture that facilitation of production is the driving force behind attrition implies that, at some stage, the bilingual carries out a cross-lingual comparison of structures, and chooses the ones that are easier to use and/or process. Consequently, s/he may find her/himself in possession of forms that minimize the processing burden imposed by both languages. Sharwood-Smith (1983a) contends that by doing so the bilingual is following the law of least effort.

However, one cannot rule out the possibility that it is competence, not performance, that is subject to external influences, and, as such, undergoes changes. These may proceed along the route determined by Universal Grammar. In fact, in many cases, crosslinguistic interaction can only be explained in terms of an internal reorganization process since the structures produced by the bilingual may not occur in either of his/her languages. In that sense, language attrition may be perceived as a form of enrichment rather than loss, since the newly created forms can add to the bilingual's expressive powers.

Considering the widespread character of bilingualism, as well as experts' remarks concerning the ubiquity of attrition, which, according to Seliger (1991), occurs whenever two languages come into contact, I have decided to investigate the degree to which a high level of proficiency in a foreign language affects the knowledge and use of the L1.

# Method

The research scheme applied in this study is a quasi-experiment. This means that the researcher did not have direct control over the variable(s) that were the subject of the

investigation, which is standard practice in attrition research (Oxford, 1982). Because of the enormous scope of the subject, the research focused only on the areas of syntax, morphosyntax and vocabulary, and the extent to which they are affected by the L2.

The project was conducted at the English Department of the University of Silesia in Katowice and involved a sample that was made up of 4 groups of subjects, 3 of which were students in their first, third and fifth year of study respectively. The fourth group consisted of lecturing staff employed in the department concerned. Each of the student groups numbered 10 students, while the staff group consisted of 6 lecturers.

To obtain a frame of reference for the results obtained by the bilingual groups, the study included two control groups whose members stated that they had a very limited knowledge of English or no knowledge of it at all, and that they were not fluent in any other foreign language. The first control consisted of 10 university students of Polish. The second one was made up of 6 lecturers from The Silesian Academy of Medicine in Katowice. They, too, said that they had no knowledge of English or any other language.

**Research instruments**

The study made use of 5 separate tests, each of which focused on a different aspect of either vocabulary, syntax or morphosyntax.

*TEST 1*

Test 1 was a timed written task (55 mins), which involved translation into Polish of 26 English sentences containing idiomatic expressions, fixed phrases, as well as collocational pairs of words and single vocabulary items. All of the above had equivalents in the Polish language which were lexically different. The main objective of the task was to determine the extent of crosslinguistic influence in a situation when the subjects had to translate sentences in the L2 into L1 as precisely as possible. Since the task was performed under the pressure of time, it was assumed it investigated the occurence of crosslinguistic transfer at the level of performance. The second objective was to make sure that the subjects were familiar with all the expressions used in the first test since this was vital for Test 5.

*TEST 2*

Test 2 focused on the subjects' ability to provide synonyms in their mother tongue. This ability is an important determinant of attrition – induced changes since, as Preston observes (1982), one of the features of attrition is the inability to recollect synonyms. The test was timed (10 mins). The control groups were also asked to take it.

*TEST 3*

Test 3 investigated the effect that the L2 has on the morphosyntax of the mother tongue. In the case of Polish, morphosyntax is the only domain of the language where it is difficult, if not impossible, to observe any direct influence of English since the latter does not inflect the noun in the way the Polish language does. This, in practical terms, means that the aim of the task was to identify any potential signs of both malfunctioning and internally – induced restructuring in this particular domain. The test consisted of 29 sentences and was administered to both bilingual and control groups. Their task was to correct forms which, in their opinion, differed from the norm. The task was untimed.

*TEST 4*

Test 4 was an untimed translation test which focused on the following syntactic aspects of the English and Polish languages:
- the structure of questions
- the structure of negative sentences
- the structure of affirmative sentences
- the sequence of tenses.

Due to structural differences between the languages concerned and because of the L1-dominant setting of the investigation, the task focused on both transfer from the L2, as well as on cases of convergence towards Polish which did not violate Polish norms. The test was an untimed task. It consisted of 18 sentences overall.

*TEST 5*

The fifth test was an acceptability judgement task which was a continuation of Test 1. It consisted of 25 literal translations of the sentences used in Test 1, which resulted in it containing expressions that were incorrect by Polish standards. The subjects' task was to correct such expressions. Since the task was untimed, it provided reliable data on the subjects' intuitive knowledge of the L1, i.e. their competence. According to Altenberg (1991), untimed judgement tasks not only minimize the effects of crosslinguistic transfer but also reduce performance slips of the tongue or pen. The test was also administered to the control groups.

The results obtained by the bilingual groups and the monolingual ones were assessed statistically. The statistics used included a 2-sample T-test, as well as ANOVA. Both tests compute the probability level or p-value, which is a measure of statistical significance.

## Results and discussion

By and large, the findings of this study demonstrate that a high level of proficiency in a foreign language has an impact on the bilingual's use and perception of his/her mother tongue. The highest incidence of L2 influence can be observed at the level of metalinguistic competence, as demonstrated by the results of the acceptability judgement test. Significant L2 interference was also noted in the timed translation task, and to some extent, in the syntax test. No statistically significant results have been obtained in the synonymy and morphosyntax tests, which indicates that in an L1 environment these two areas of language are the least likely to be affected by L2 interference.

On the whole, all four groups of subjects experienced difficulty while translating into their mother tongue. This is evidenced by their mean score for accurate translation, which is 70%. The remaining 30% is made up of calques (11%) and avoidance strategies (19%). At this point, I would like to point out that this study differentiates between L2 calques and avoidance stategies since the latter may result from the subjects' incomplete knowledge of the L1 (Jaspaert, Kroon 1986). On the other hand, the chances are that they manifest the subjects' uncertainty about forms presented in the tests. This is why they have been classified as incorrect. The forms which appeared most likely to be translated literally into the subjects' L1 included mainly fixed expressions, such as *as white as chalk* (81% of calques),

Fig. 1. Calques and avoidance as observed in the translation and acceptability judgement
tests
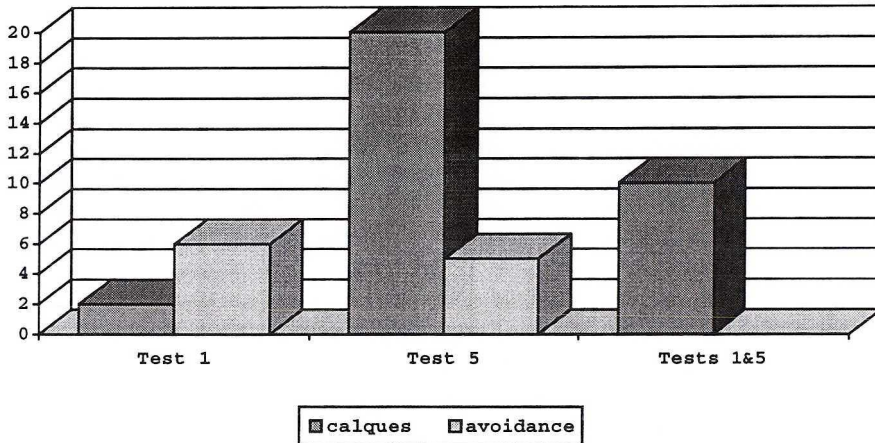


the eye of the needle (42%) and how do you find somebody (25%). The results of the
acceptability judgement test (Test 5) partly confirm these findings. Among the expressions
that appeared to be most vulnerable to L2 influence are expressions such as blady jak
ściana (85% of calques), ucho igly (78%) and podeszły wiek (75%). At the same time, it is
necessary to observe that the monolingual control groups performed much better on Test 5
than the bilinguals. Their scores for correctness range from 94% for the staff group to 76%
for the student groups. By contrast, the highest score achieved by the bilingual groups is
64%. Statistical analysis of the scores confirmed the significance of these differences.

Perhaps the most interesting conclusions can be drawn from the juxtaposition of the
data obtained in both tests, i.e. Test 1 and 5. Namely, it appears that about 9% of all the
calques recorded in Test 1 (the translation test) were approved of in the acceptability
judgement task (Test 5). They are the following: as white as chalk (78%), the eye of the
needle (42%) and how do you find somebody (22%).

In the course of the analysis, special emphasis was also placed on discrepancies
between translation scores, especially if the translation provided by the subject was
acceptable by L1 norms, and acceptability evaluations which involved either the approval
of a calque or use of an avoidance strategy. Overall, 25% of the subjects under investiga-
tion demonstrated variability in judgement by providing correct translations in the trans-
lation task and approving of the literal translation of that very phrase in the acceptability
judgement test.

The reverse scenario was also taken into consideration. This means that the study
considered all the cases in which the subjects demonstrated L2 influence in the transla-
tion task without showing it in the acceptability judgement test. The findings of this
analysis show clearly that the occurrence of L2 influence in spontaneous translation
without any ensuing effect on the acceptability judgement test is rare and accounts for
2%. The percentage for using avoidance strategies under similar circumstances is slightly
higher and constitutes 6%.

When accounting for these discrepancies, one has no choice but to admit that metalinguistic competence seems more vulnerable to L2 influence than performance. What is more, differences in scores between Tests 1 and 5 hint at the possibility that transfer in the metalinguistic domain lies at the root of production irregularities in the L1. This, in turn, leads to the conclusion that L1 attrition begins at the level of competence.The reasons for it are manifold. First of all, as de Bot (1991) duly observes, metalinguistic skills appear to be less automatised, and, as such, are more vulnerable to influences from another language. Besides, the very fact that L2 transfer is more frequent at the metalinguistic level indicates that under the influence of the L2, the bilingual is likely to change his/her perception of the other language. This may result in an actual extension of his/her linguisitc repertoire which, consequently, will include calques from the L2. Incidentally, this also proves that transfer operates at the level of comprehension, which probably reinforces changes in the metalinguistic domain.

The direction and sequence of changes in attrition become more discernible when considered in terms of markedness theory. By way of a reminder, I find it necessary to mention that the general formula for the occurence of tranfer states that a marked form in the recipient language is replaced by an unmarked setting from the donor language (Arabski 1985 after Kellerman 1983). Not surprisingly, such a tendency was observed in the data gathered in this study. Namely, the expression that turned out to be most vulnerable to L2 influence was *as white as chalk,* which was most often translated into Polish as *biały jak kreda* rather than *blady jak kreda* (*as pale as chalk). Since walls tend to be white rather than pale, the subjects' choice of the less marked option confirms the validity of the claims put forward by markednes theory. Likewise, the tendency to replace *ucho igielne* (*the ear of a needle) with *oko* (the eye of a needle), as well as *podeszły wiek* with * *stary wiek* (old age) on analogy to English is another case in point.

A mention also has to be made of the expression *How do you find somebody* ? whose literal translation into Polish received high approval scores from the bilingual subjects. This can be explained by the fact that an identical expression used to exist in the Polish language and has probably been preserved in the bilinguals' lexicon due to the reinforcing influence of English.

The influence of the L2 is less obvious in Polish syntax. Generally, 23% of the data obtained in the syntax test showed signs of L2 influence. Among the structures that appear to be most vulnerable to attrition are negative short answers (94%), interrogative pronouns such as *odkąd/którędy* (78%), negative sentences in which the negation word *not* is semantically redundant (75%), as well as the position of adverbials of time and place in a sentence. 43% of subjects showed a tendency to place these adverbials in final position on analogy to English.

In principle, crosslinguistic interaction in the syntactic domain manifests itself as transfer and/or convergence towards the L2. The latter can be defined as preferential use of L2 structures in L1 in contexts where a similar L2 form would be used. In addition, one has to mention the tendency to use shorter and more transparent patterns if such structures are used in the L2. This particular tendency can be explained as an attempt to dispose of forms whose overall structural complexity exceeds complexity of meaning.

As for the interrogative pronouns *którędy/odkąd*, they constitute an unexpected by-product of the syntax test since they exemplify changes in the lexical domain. What makes

Table 1. The influence of English on Polish syntax

23% of the structures under investigation showed signs of L2 influence

| | |
|---|---|
| SHORT NEGATIVE ANSWERS (94%) *You don't like Chopin, do you?* *No, I don't.* | *Nie lubisz Chopina, prawda?* *Tak, nie lubię.* B[1]: *Nie, nie lubię.* |
| INTERROGATIVE PRONOUNS *since when* (78%) *which way* (39%) | *odkąd/od kiedy* B: *od kiedy* *Którędy* B: *Którą drogą* |
| NEGATIVE SENTENCES IN WHICH 'NOT' IS SEMANTICALLY REDUNDANT (75%) *He was nearly run over by a car.* | *Omal nie przejechał go samochód.* B: *Samochód prawie go przejechał.* B: *Prawie został przejechany przez samochód.* B: *Prawie potrącił go samochód.* |
| POSITION OF ADVERBIALS OF TIME IN A SENTENCE *What will John do tomorrow?* | B: *Co John robi jutro?* B: *Co John będzie robił jutro?* |

them worth mentioning is the fact that they lend support to the claim that convergence occurs whenever it results in the bilingual using less opaque items in the language being spoken.

## Conclusions

The findings of this study shed light on the nature and sequence of L2-induced changes in the L1, as well as revealing the bilingual's linguistic preferences to do with the choice of words and grammatical structures. Furthermore, they provide a basis for gener-alizations about attrition, which run as follows:

1.The L2 affects the L1 both at the level of performance and at that of competence. It is the latter level, however, which manifests greater incidence of crosslinguistic influence. This, in turn, indicates that attrition of competence precedes that of performance.

2. The area of syntax is vulneable to L2 influence, which takes the form of transfer and convergence towards the L2. The resultant forms may violate norms in the L1.

3. The lexicon is also vulnerable to L2 influence which manifests itself in the form of borrowing from the L2, calques as well as uncertainty about forms in the native language. The latter often results in avoidance of the relevant phrases and/or vocabulary items. The items most at risk from attrition include marked forms which tend to be simplified,i.e. demarked.

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[1] B: forms suggested by bilingual subjects.

4. No statistically meaningful changes have been found in the domain of Polish morphosyntax and in the synonymy test. This seems to suggest that in an L1 environment the influence of the L2 on these areas is insignificant.

## Appendix

### Tests used in the project

a) Types of sentences used in the translation task

*The people in the house next door didn't **lift a finger** to help their neighbours who suffered a disaster.*

*She didn't give me a definite answer but **reading between the lines,** I think she'll take the job.*

*I'd never seen anyone looking as ill as Jeff. He was **as white as chalk** when he came home from work that night.*

*I can't thread this bloody needle. Its **eye** is so small that I keep missing it.*

b) Types of sentences used in the acceptability judgement test

*Nie udzieliła mi konkretnej odpowiedzi, ale **czytając między linijkami** myślę, że przyjmie tą pracę.*

*Nasi współlokatorzy nawet **nie podnieśli palca**, aby pomóc sąsiadom, których dotknęło nieszczęście.*

*Nigdy nie widziałem nikogo tak chorego jak Jeff. Był **biały jak kreda** gdy wrócił z pracy tego wieczora.*

*Nie potrafię nawlec tej przeklętej igły. Ma tak małe **oko**, że trudno w nie trafić.*

c) Types of sentences used in the syntax translation test

*Which way did you go ?*

*You don't like Chopin, do you ? No, I don't.*

*He was nearly run over by a car.*

d) Types of sentences used in the morphosyntax test

*W Polsce znajduje sie kilka stadnin Arabów. Arabowie to piękne konie.*

*W każdej talii są cztery królowie.*

*Nigdy nie nosiłam trampków. Uważam, że są niehigieniczne.*

e) Types of items included in the synonymy test

*opis*

*warzywa*

*tajemnica*

*gwarancja*

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