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The influence of the L2 on L1 competence: a study of crosslinguistic interaction in an L1 environment

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1. Introduction

Contrary to popular belief, bilingualism is a widespread phenomenon which is “present in practically every country of the world, in all classes of society, and in all age groups” (Grosjean, 1982: 1). According to Grosjean (1982), it is, in fact, difficult to find a society that is genuinely monolingual. Throughout history, bilingualism affected not only the speech of individuals, but also that of entire linguistic communities and left its mark on the form of modern languages, just as ancient civilisations left lasting imprints on contemporary thought.

The ubiquitous nature of bilingualism partly explains the widespread interest in this phenomenon which has marked the past four decades or so. However, research findings have brought about a realisation that bilingualism cannot be discussed only in terms of sociolinguistic and educational issues (Skutnabb-Kangas, 1981; Appel & Muysken, 1987). Neither can it be limited solely to aspects of second/foreign language acquisition and psycholinguistics (Weinreich, 1968; Hakuta, 1986; Arabski, 1985). There is a growing consensus in the literature on the subject that bilingualism involves two-way language interaction, which more often than not, results in attrition of one of the languages involved. According to Andersen (1982: 84), attrition is simply a form of individual linguistic evolution by
which a bilingual loses or experiences changes in (part of) his linguistic competence.

To avoid erroneous assumptions about the subject of this paper, I find it necessary to specify what exactly is meant by competence. The term brings to mind the classic Chomskyan distinction between competence and performance. The former denotes internalised, often tacit knowledge of a language which allows the language user to produce and comprehend utterances in a given language. However, competence also inevitably evokes what Lyons (1996: 29) calls the performative sense of knowledge. This means that it can be thought of as a skill which can be acquired through practice.

The present paper explores both dimensions of competence, which, in practical terms, means that it deals with its propositional and performative aspects alike. The major focus, however, is on the way in which the bilingual perceives and controls his/her L1 lexicon, because it is this which forms the linguistic basis for inferences about competence.

Interestingly, the Chomskyan distinction between competence and performance seems to be central to the current theoretical debate on the direction and sequence of changes in L1 attrition (Sharwood-Smith, 1983a; Sharwood-Smith & Van Buren, 1991). In fact, Sharwood-Smith (1983a) contends that it is virtually impossible to establish a reliable and comprehensive conceptual framework for L1 loss without determining its origins in the first place. To put it another way, it is necessary to consider whether the issue of L1 loss can be explained in terms of performance deficits, i.e. temporary deficits characterised by variability and competence deficits, which involve a continuing presence of forms which diverge from the monolingual norm. One may, of course, ask the question of whether it is at all possible to lose L1 competence. If we choose to follow Adjemiyan’s (1976) line of thinking, then, competence change will appear impossible as he maintains that mature native languages are typically stable and, therefore, not liable to attrition. Sharwood-Smith (1983a) disagrees with this notion, however, and claims that competencies are permeable, whether they are complete language systems or interlanguages. Considering the dynamic character of language learner language (Ellis, 1982), as well as the fact that all human languages are subject to evolutionary change, one is inclined to believe that the latter may indeed be the case.

A change in competence may be independent of the presence of input from the external environment. In fact, in the attrition situation one may assume that input is either absent or that the bilingual has become insensitive to it due to a lack of motivation to keep his/her L1 up or a preoccupation with the other language, which seems to be much more demanding in terms of processing than L1. Since it seems quite possible that the native speaker needs input not only for developing an L1 system but also for keeping
it intact, its absence is more than likely to result in the restructuring of competence.

Such an explanation of change in attrition is in line with Chomsky's statement (Cook, 1996) that unmarked values, i.e. values determined by UG are preferred over the marked ones, unless the evidence provided by input shows otherwise (Sharwood-Smith, 1991: 25). What this means, in practical terms, is that in a situation where input is scarce or screened out due to affective and/or processing factors, the bilingual is likely to experience changes in competence which will proceed along the route determined by UG.

However, one cannot rule out the possibility that competence is, in fact, stable and remains intact during the attrition process. What is affected, then, are the on-line performance mechanisms that are responsible for accessing it. Among the factors that may be held responsible for malfunction in this area, Sharwood-Smith (1983a) mentions overall processing simplicity, which appears to be the driving force behind language change in general (Croft, 1993). This implies that when faced with the strain of spontaneous communication, the bilingual is likely to opt for structures which minimise the processing burden imposed by both languages. Sharwood-Smith (1983a) also suggests that by doing so the bilingual is following the law of least effort, which, in turn, tempts me to observe that by following the law of least effort, the bilingual is probably also following UG.

The same principle seems to be in operation if we, once again, adopt the markedness theory as suggested by Chomsky (Cook, 1996). Here, the language user adopts the less marked structures into his/her L1 because they are simpler, shorter, more basic, and, most of all, easier to process. In a broader sense, the preference for less marked forms reflects the natural inclination of all human language grammars to apply the most economical systems of rules. Interestingly but not surprisingly, similar tendencies have been observed in attrition, which according to Seliger and Vago (1991: 13), tends towards the elimination of marked forms in favour of unmarked ones.

This interpretation of performance impairment poses a certain difficulty, however. Namely, it is unrealistic to assume that markedness affects bilingual language processing solely at the level of competence, or solely at that of performance. In fact, it is far more logical to assume that both levels are affected in a similar way, which indicates that one has to look for answers concerning the origins of attrition either in other theories of language or in empirical research into the phenomenon in question, which is the subject of the following section.
2. Research design

The present paper presents the findings of a research project carried out at the English Department of the University of Silesia in Katowice in 1997. The study focused on the level of lexical competence in L1 that is developed by Polish university students and teachers of English as a foreign language, as a result of continued and extended use of and exposure to that language. In short, it examined the extent to which the subjects’ L1 lexicon is affected by their L2.

The sample was made up of 4 groups of subjects, 3 of which were students, while the fourth group consisted of lecturing staff employed in the department concerned. Each of the student groups numbered 10 students, whereas the staff group consisted of 6 lecturers. The subjects were selected at random.

To rule out the possibility that any irregularity in the data obtained in the course of this study may result from developmental changes occurring within the Polish language rather than from crosslinguistic influence, as well as establish a frame of reference for defining and assessing the nature and extent of the latter (Jaspaert, 1986), the study involved two control groups. The first one consisted of 10 university students of Polish, who declared that they had a very limited knowledge of English or no knowledge of it at all, and were not fluent in any other language. The second control group was used as a frame of reference for the bilingual staff, and consisted of 6 lecturers from The Silesian Academy of Medicine in Katowice. They, too, declared no knowledge of English or any other foreign language.

3. Data collection

The study made use of 5 separate tests, each of which focused on a different aspect of language use.

Test 1

The first test was a timed written task, which involved translation into Polish of 26 English sentences containing idiomatic expressions, e.g. a bull in a china shop, fixed phrases, e.g. as white as chalk, as well as colloca-
tional pairs of words, e.g. old age and single vocabulary items, e.g. the eye of the needle. All of them 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 were exposed to one language and had to render the information conveyed in it into their other language as precisely as possible. Since such a task involves comparing surface features of both languages in circumstances when time is scarce, the subjects were pressured to communicate quickly and effectively. The second objective was to make sure that the subjects were familiar with all the expressions used in the first test, as this was vital for Test 5. All of the subjects were allowed to consult a monolingual English dictionary if in doubt. The time allotted to this task was 55 minutes.

Test 5
The fifth test was an acceptability judgement task which was a continuation of the first test. It consisted of 26 literal translations of the sentences used in Test 1, which resulted in it containing expressions that were incorrect by Polish standards, i.e. *stary wiek. The paper was administered as the last one in a series of five tests, since it was hoped that the average 90-minute gap that separated the first task and the last one would distract the subjects enough to prevent them from remembering the Polish translations they offered in the translation task. The tests administered between Tests 1 and 5 were meant to function as distractors, and as such focused on areas of language which bear no direct relevance to the subject of this investigation. The main objective of Test 5 was to determine if, and to what extent the knowledge of equivalent expressions in the L2 affects the subject’s sense of acceptability in the L1. The subjects’ task was to correct expressions which, in their opinion, were incorrect by Polish norms.

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: 1), untimed judgement tasks not only minimise the effects of language interaction during processing but also reduce performance slips of the tongue or pen. To exclude the possibility that the interpretation of the data obtained by means of the test was in any way biased, it was also administered to the control group.
4. Research implementation

The study proper was conducted on 3 consecutive days. Each testing session did not last more than 180 minutes. Having completed each of the tests, the subjects handed their papers back to the researcher. This prevented them making revisions in the earlier papers, as well as referring to them while at work on the subsequent ones.

A 2-sample T-test was used to determine whether there was a significant relationship between the scores obtained by each of the bilingual groups on the one hand, and the control group on the other.

5. Results

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 tests applied here indicate that the highest incidence of L2 influence can be observed at the level of metalinguistic expertise, as demonstrated by the results of the acceptability judgement test. Significant L2 interference was also noted in the timed translation task. For the sake of clarity, it is necessary to note that the L2 influence manifested itself either as a calque, half-calque, or, indeed, as an avoidance strategy. Calques can be defined as literal translations of the phrase concerned into the L1. Half-calques are expressions which constitute literal translations of an L1 phrase in part only, i.e. dać koniec. Like calques in general, such expressions are often unique coinages, whose novelty does not always conform to the monolingual norm. Finally, strategies of avoidance can be defined as any attempt by the subject to provide a translation which expresses the meaning of the relevant word or phrase in a roundabout fashion. It has been assumed that by using avoidance strategies, the bilingual manifests his/her uncertainty about correctness of forms in the L1.
6. The translation test

On the whole, all four groups of subjects experienced difficulty while translating into their mother tongue. This is evidenced by their scores for accurate translation, which range from 78% for the staff group to 62% for the third year students. The mean score for this category is 70%. By the same token, the mean scores for the use of calques and avoidance in spontaneous translation constitute 11% and 19% respectively of all the data obtained in this task.

7. The acceptability judgement test

Interestingly but not surprisingly, the control groups performed much better on this test than any of the English groups. Their scores for correctness reach 94% for staff and 76% for student groups, while the highest score obtained by the bilinguals accounts for no more than 64% and was obtained by the staff group. This difference in scores is statistically significant only for 1st and 3rd year students, as well as for staff (p < 0.03). By the same token, the control groups approved of the smallest percentage of calques from the L2 (8% on average) while the mean percentage of calques recognised as correct by the English groups constitutes 28%. Equally low are their scores for avoidance, which amount to one third of the mean rating obtained by the bilingual students (10%) and about a half of those achieved by the bilingual staff. As in the case of correct answers, statistical analysis of the calques recorded through the test produced significant results only for 1st and 3rd year students, as well as for staff (p < 0.01). As for avoidance strategies, all of the bilingual groups received statistically significant scores (p < 0.05).

The findings of the acceptability judgement test were compared with those of the translation task. The comparison revealed that of all the data gathered, 10% constituted calques which received approval ratings in both the translation test and the acceptability judgement one.

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 judgement evaluations which involved either the approval of a calque or use of an avoidance strategy.
Overall, 25% of the subjects under investigation demonstrated variability in judgement by providing correct translations in the translation task and approving of the literal translation of that very phrase in the acceptability judgement test.

The reverse scenario was also taken into consideration. That is to say that this study considered all the cases in which the subjects demonstrated L2 influence in the translation 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%. On the whole, around 8% of the subjects participating in this study showed discrepancies in this area, which is much less than the ratings for the reverse situation.

The data on the discrepancies between translation and acceptability judgement scores are presented in Figure 1.

![Fig. 1. Calques and avoidance as observed in the translation and acceptability judgement tests](image-url)
8. Discussion and conclusions

Before making any attempt to discuss the findings of this study, it is necessary to note that, by and large, they depict the level of L1 competence developed by highly proficient bilinguals in an environment where the L1 is the dominant language. The results of the tests applied in this project indicate that metalinguistic knowledge, often referred to as competence, is most vulnerable to L2 influence and attrition. Interestingly but not surprisingly, performance, too, is far from being immune to L2 influence. On the contrary, the findings of Test 1 reveal that the incidence of crosslinguistic transfer at the level of performance is quite high, not as high as at the level of competence, however. A juxtaposition of the data obtained through both tests yields even more interesting findings. Namely, it reveals that the restructuring of competence probably precedes changes at the level of performance. To be more specific, since the number of cases where a correct answer in the translation task was followed by approval of a calque in the acceptability judgement test, was much higher than in the reverse scenario, one is led to believe that transfer in the metalinguistic domain may, indeed, lie at the root of production irregularities in the L1. The validity of this statement is upheld by the fact that most of the calques in the translation task could be coupled with calques in the acceptability test. At the same time, as was mentioned earlier, the incidence of transfer in spontaneous translation without any ensuing impact on grammaticality judgements was very low and, as such, could be treated as an isolated occurrence.

The reasons for this are manifold. First of all, as de Bot (1991) duly observes, metalinguistic skills appear to be less automated and, as such, are more vulnerable to influences from another language. Secondly, the very fact that L2 transfer is more frequent at the metalinguistic level, hints at the possibility that under the influence of the L2, the bilingual changes his/her perception of the mother tongue and, as a result, includes in it elements that belong to the other language. Such a view of L1 change is compatible with Sharwood-Smith's (1983a) contention that language attrition and/or change should be seen as a form of enrichment rather than reduction, since it may result in an extension of the bilingual's linguistic repertoire. Furthermore, the bilingual's inclination to approve of expressions that did not conform to the monolingual norm, suggests that interlinguistic transfer operates at the level of comprehension and, that bilinguals use similar, if not identical, strategies and/or mechanisms to process the semantic content of utterances in both their languages. It is also possible that transfer at the level of comprehension reinforces changes in the metalinguistic domain.
Interestingly, the results of this study run counter to the findings of de Bot and Rossing (1991), who in their study of the language of Dutch immigrants in France did not discover any loss at the level of metalinguistic skills in Dutch. Quite the opposite, the data obtained in their study led them to believe that the loss of linguistic skills precedes that of metalinguistic competence. This apparent discrepancy in results is thoroughly justified, however. Namely, closer examination of both research designs reveals that they both focused on different aspects of L1 proficiency. The de Bot study investigated global proficiency in Dutch, which was measured in terms of general oral fluency, as well as reading comprehension skills. As the latter set of skills is believed to be quite resistant to attrition (Grosjean, 1982), the fact that the subjects found the editing test used to probe their L1 competence easy and, thus, evidenced no symptoms of L2-induced changes, should come as no surprise. What is more, the grammaticality judgement test used in the project was originally designed for aphasic speakers of Dutch whose language background and history were relatively unknown. What this means, in practical terms, is that the test cannot be treated as a reliable tool for assessing the extent and/or kind of ‘damage’ caused by crosslinguistic influence. The fact that it focuses mainly on those areas of Dutch syntax which cause difficulty even for monolingual speakers of that language, makes it only a dependable predictor of potential sites of this influence. In short, the de Bot study does not allow for the possibility that under the influence of another language, the bilingual’s linguistic repertoire may actually expand rather than shrink. This is why the results he obtained reflect to some extent the characteristics of his experimental design rather than those of crosslinguistic influence.

The suggested sequence of changes in attrition does not rule out the possibility that crosslinguistic transfer may occur in performance independently of changes in competence. For example, the bilingual may both consciously and subconsciously resort to borrowing from the L2 just to fill a momentary linguistic need, or because a particular L2 expression conveys his/her intended meaning better than its L1 equivalent. In fact, according to Grosjean (1982), interference from the other language is extremely common, especially in bilinguals who have attained a high level of proficiency in both their languages.

Finally, I would like to offer practical advice on how to differentiate between language attrition and mere performance slips. Despite the fact that they tend to be treated as separate phenomena, it is somehow obvious that, in reality, the dividing line between them is very fine. That is why it seems realistic to adopt a rather common-sensical stance and adhere to the following formula:
If a bilingual has lost the ability to reliably assess the lexical and grammatical appropriacy of utterances in one of his/her languages, then the language is probably undergoing some sort of attrition. If, on the other hand, his/her linguistic intuition remained intact, any linguistic anomaly manifested in his/her spontaneous speech and/or writing can be attributed to performance malfunction.

It is my belief that the present discussion can contribute to the general understanding of crosslinguistic interaction in particular, and bilingualism in general.

Appendix

1. 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.

You’ve got a flat tyre on your bike. You must have run over a nail or a piece of glass.

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

He’s madly in love with her. She, taking advantage of the situation, leads him by the nose and cheats him of bigger and bigger sums of money.

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

Masz płaską oponę w rowerze. Na pewno najechałeś na gwóźdź lub kawałek szkła.

Nie udzieliła mi konkretnej odpowiedzi, ale czytając między linijkami, myślę, że przyjmie tę pracę.
Jest zakochany w niej do szaleństwa. A ona, wykorzystując sytuację, prowadzi go za nos i wyłudza coraz większe sumy pieniędzy.

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.

References


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Wpływ języka drugiego (L2) na kompetencję językową w języku pierwszym (L1) w środowisku zdominowanym przez język pierwszy

Streszczenie

Tematem artykułu jest wpływ, jaki wysoki stopień zaawansowania w języku obcym (L2) wywiera na kompetencję językową w języku ojczystym w środowisku zdominowanym przez ten język (L1). Aby uniknąć błędnych interpretacji dotyczących przedmiotu publikacji, należy zaznaczyć, że termin „kompetencja” jest tutaj zastosowany w znaczeniu zintegrowanego zestawu reguł rządzących poprawnością gramatyczną, jak to postulował Chomsky, oraz w sposób bardziej praktyczny, koncentrujący się na aspekcie performatywnym. Oznacza to, że przez kompetencję rozumiane jest również sprawne i poprawne działanie językowe.

Ze względu na szeroki zakres tematu autorka koncentruje uwagę jedynie na wpływie, jaki język angielski wywiera na słownictwo języka polskiego, ze szczególnym uwzględnieniem wpływów interferencyjnych L2 na poziomie kompetencji i performancji oraz sposobu, w jaki wpływy te się objawiają.
Der Einfluß der zweiten Sprache (L2) auf die sprachliche Kompetenz in der ersten Sprache (L1) im Milieu, in dem die erste Sprache dominiert

Zusammenfassung

Das Thema des Artikels ist der Einfluß, den ein hoher Grad der Sprachbeherrschung in der zweiten Sprache (L2) auf die sprachliche Kompetenz in der Muttersprache in dem Milieu ausübt, in dem diese Muttersprache (L1) dominiert. Um falsche Interpretationen bezüglich des Objekts des Artikels zu vermeiden, soll erklärt werden, daß der Begriff „Kompetenz“ hier in der Bedeutung einer internalisierten Sammlung von Regeln verstanden wird, die die grammatische Richtigkeit bestimmen, wie das Chomsky postulierte, und auf eine mehr praktische Weise, die sich auf den performativen Aspekt konzentriert. Dies bedeutet, daß durch die Kompetenz auch flüssige und korrekte sprachliche Handlung verstanden wird.

Im Bezug auf den breiten Umfang des Themas konzentriert die Autorin ihre Aufmerksamkeit nur auf den Einfluß, den das Englische auf die Lexik im Polnischen ausübt, mit einer besonderen Berücksichtigung der Interferenzeinflüsse der L2 auf der Stufe der Kompetenz und der Performanz und die Art und Weise, auf die diese Einflüsse anzutreffen sind.