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CONCEPTUAL TRANSFER FROM A BILINGUAL PERSPECTIVE: RESEARCH TRENDS AND SUGGESTIONS

This paper examines the notion of conceptual transfer within the framework of current psycholinguistic research into bilingual memory and multi-competence. In particular, it seeks to delimit the form and direction of conceptual transfer in the bilingual lexicon, as well as outlining the conditions for its occurrence. These are discussed in relation to the data collection methods employed to date, and in the light of recent findings and developments in the area of psycholinguistics and bilingualism.

This paper concerns itself with the subject of conceptual transfer and its workings in bilingual memory. As the discussion will be held within the theoretical framework of multi-competence, which assumes that the two languages in the bilingual mind are in continuous communication (Cook 2003), the focus will be both on second/foreign language acquisition and on typical bilingual designs. The paper opens with an overview of how the term conceptual transfer has been used in bilingualism research and literature, and proceeds to discuss related theoretical and practical issues and their implications for subsequent research designs.

Until now, there have been at least three independent strands of research into conceptual transfer within bilingual frameworks. All three of them shared the assumption that linguistic and non-linguistic knowledge are stored together in a domain-general representational system that makes any form of interaction between language(s) and cognition possible (Bialystok 2005: 419). Still, this did not result in uniformity as each strand focused on qualitatively different processes, which are discussed below.

1. Transfer of literacy skills and problem solving between languages in bilingual memory (Kecskes and Papp 2000, 2003; Cummins 1991; 2000; Bialystok 2001; N. Francis 2000; W. Francis 1999). This type of research is traditionally conducted in bilingual countries and concerns itself with the education of minority groups. An

exception is a study by Kecskes and Papp (2000; 2003), which was conducted in a foreign language setting.

In accordance with these objectives, **conceptual transfer** is defined as top-down non-linguistic cognitive operations, which are associated mainly with literacy, and which include dealing with text difficulty, knowledge of cultural schemata and discourse structure (formal schemata), familiarity with the subject matter, L1 linguistic knowledge (Durgunoglu 1997) and literacy. Despite the impression that literacy skills are tightly linked to language, they can be applied to process texts in any language, which makes them code-neutral. Baker (2001: 351) further clarifies this by explaining that the scope of literacy covers a number of decoding and reading strategies, such as skimming, scanning, guessing from context, skipping unknown words, tolerating ambiguity, focusing on meaning, making inferences, monitoring, recognizing text structure, using previous knowledge and background knowledge about the text, along with knowledge of rhetorical devices, and self-confidence in one's literate ability. As for conceptual transfer, it has been found that these strategic skills carry over into the bilingual's weaker language, or as N. Francis (2000) contends, they simply become available once an adequate level of L2 proficiency has been reached.

In Kecskes and Papp's (2000; 2003) study **conceptual transfer** referred to cognitive benefits that arose from high proficiency in the L2 and affected literacy in the L1. It is likely that those advantages were the result of improved cognitive efficiency, which stemmed from the alternate use of two systems of expression. Moreover, W. Francis (1999) found that transfer of information and of problem solutions to another language, which she also termed **conceptual transfer**, was independent of the language of encoding and decoding. In summary, it is evident that the processes investigated within this research strand are for the most part non-linguistic and involve general cognitive functions. Accordingly, they often go under the name of cognitive or academic skills.

2. Linguistic relativity. Broadly speaking, the term denotes the influence of language on thought (Lucy 2003, 2004; Levinson 1997, 2003; Jarvis 2007). Accordingly, research in this field aims to isolate language from non-linguistic thought. This is why every care is exercised to construct designs that exclude verbalization even at the level of inner speech (Green 2000).

The idea that language-mediated concepts may have an impact on SLA has been adopted by Odlin (2005), who quite surprisingly, defines conceptual transfer as cases of linguistic relativity. In his opinion, these can be observed mainly in L2 production and comprehension in the form of L1-induced conceptual influence. The view of conceptual transfer as linguistic relativity is not shared by other authors, although they seem to be well aware of the mutual dependencies between these two phenomena. For instance, Jarvis (2007) observes that the influence of language on thought is undoubtedly a source of cross-linguistic conceptual differences in the verbal and non-verbal behavior of bilinguals. Incidentally, this may be the main reason why relativistic designs have been replicated in bilingual settings and used to obtain data in support of multi-competence and language-induced conceptual restructuring of the bilingual con-

ceptual base (Cook et al. 2006, Athanasopoulos 2006). Moreover, SLA findings have been reinterpreted in terms of relativistic contrasts, which became a basis for predictions about potential (conceptual) transfer in the interlanguage of L2 users. This has been the case with domains denoting objects, number and space (Jarvis and Pavlenko 2007). Jarvis and Pavlenko (2007; Jarvis 2007) emphasized repeatedly the distinctiveness of linguistic relativity, which is concerned solely with the impact of language on cognition, and of conceptual transfer, which in their view, denotes the influence of language-mediated habitual thought on linguistic behavior in another language. However, given that conceptual transfer research relies on the use of relativistic non-verbal designs, such as sorting and categorization tasks as a way of identifying conceptual contrasts, and that these techniques have already been used to elicit verbal responses from bilingual subjects (Ameel et al. 2005; Malt and Sloman 2003), it may become increasingly difficult to separate these two phenomena and thus avoid obscuring cause and effect when defining both terms. A limitation of linguistic relativity is the fact that not all conceptual differences can be ascribed to structural contrasts, as was shown by Pavlenko (2003) who studied the use of the term *privacy* in the speech of Russian immigrants to the US. Since the word itself and, in all probability, the corresponding concept are absent from the Russian lexicon, it appeared only in the narratives of those subjects who had spent at least three years in an English environment.

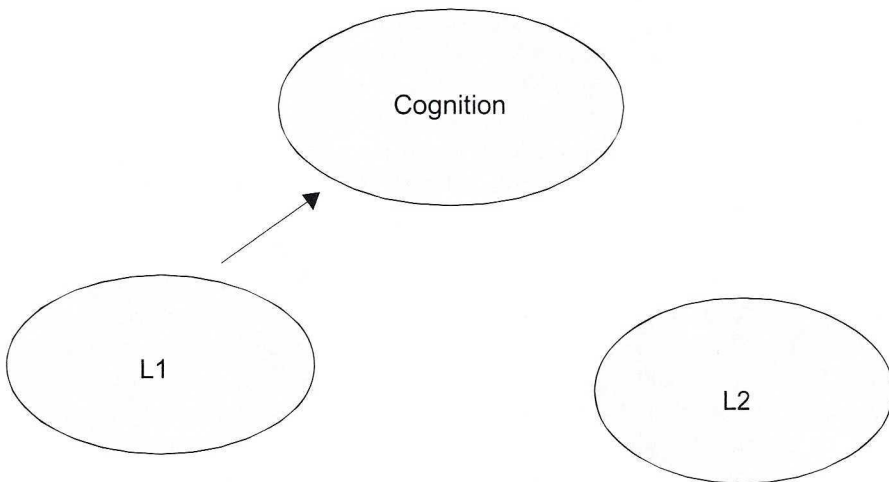


Fig. 1. The scope of linguistic relativity (Jarvis and Pavlenko 2007)

3. Research into how language-mediated concepts acquired through experience with L1 affect the use of another language. Like linguistic relativity, this line of research investigates the interface between language and cognition. In this case, however, the focus is not so much on non-linguistic cognition as on the language of users

of two or more languages, in line with the view that language-mediated lexicalized and grammaticalized concepts, which are acquired through interaction in one language exert an influence on the use of another. Accordingly, **conceptual transfer** is defined as the effects of underlying language-mediated conceptual representations and of the resultant patterns of thought on a learner's (bilingual's) use of both first and second languages. The domains in which such effects have been detected include, among others, motion (Jarvis 1997), emotion (Pavlenko 2006) and time (Jarvis and Pavlenko 2007). Since the spotlight is on language use rather than on the underlying conceptual representations, tasks that investigate cross-linguistic conceptual transfer tend to be verbal and include naming tasks, as well as picture and film description (Jarvis 2007). They may also be used in combination with non-verbal designs, which could shed light on potential conceptual differences. Exclusive use of non-verbal tasks would only obscure the issue by highlighting its relativistic dimension. Under this view, conceptual transfer is deemed to occur when speakers of different L1s name and/or verbally categorize the same referents differently when using the same L2 (Jarvis and Pavlenko 2007). On an individual level, there should be consistency in the way a particular bilingual refers to objects and events in both L1 and L2, despite conceptual contrasts between the corresponding domains in both languages (Jarvis 2007).

When discussing linguistic relativity I mentioned the ever-growing tendency to extend the use of relativistic non-verbal techniques to bilingualism research, which more often than not requires some kind of verbalization. I also pointed out that the practice obscured the cause-effect relationship between the phenomena under investigation, and could result in a gradual merger of the relevant theories, which until now have been regarded as distinct. That this has already happened becomes obvious from an analysis of Jarvis's (2007) distinction between concept transfer and conceptualization (ways of thinking) transfer. While both belong to the domain of conceptual transfer, the former results from the influence of conceptual representations stored in long-term memory (LTM), while the latter consists in selecting concepts from LTM, summoning them into short-term memory, and combining them in a linear way to construct temporary representations of experience. The former covers those cases of conceptual transfer that were discussed under point 3, whereas the latter refers to on-line processes, which Slobin (1996, 2003) aptly termed *thinking for speaking*. In its initial version, the thinking for speaking hypothesis was essentially a reformulation of the linguistic relativity hypothesis (Slobin 1996), stating that the process of speaking involves choosing relevant conceptual content and fitting it into available linguistic forms, i.e. thinking in terms of the frames available in the language being spoken. The process was assumed to have numerous 'ripple effects' (Slobin 2003:160) in the form of increased selective attention and memory for the linguistically encoded features of experience. Findings from SLA and translation research show that L1-based thinking patterns transfer into speaking an L2 (Odlin 2005; Carroll, Murcia-Sierra, Watorek and Bendiscioli 2000; Slobin 1996, 2003). Levelt's (1989) theory of speech production does not envisage such effects and maintains that thinking for speaking effects do not extend beyond production. In this sense, conceptualization transfer draws heavily on Levelt's

theory. Another source of insight is the work of von Stutterheim (2003), who examined descriptions of events elicited through film retells. The study considered narratives by native speakers of German, English as well as those obtained from English learners of L2 German. One of its main findings was that speakers of both languages prioritize different aspects of the observed events. The English seem to focus on the activity itself, as evidenced by *Two nuns are walking down a road*, while German speakers tend to include an endpoint in the description, either real or imagined, as in *Two nuns walk along a lane toward a house* (Odlin 2005)¹. The study also shows that this pattern of event structuring is often transferred into the L2. von Stutterheim (2003) interprets these findings as being indicative of the grammatical significance of progressive aspect in English, which sensitizes its speakers to the continuity of actions rather than their endpoints. In another article published in the same year (von Stutterheim and Nüse 2003, cited in Jarvis 2007), she divides the process of conceptualization into four separate stages: segmentation (which events are referred to), selection (which aspect of these events is commented on, i.e. their continuity or endpoints), structuring (whether these events are anchored to the observer or other events) and linearization (verbalization of the processed conceptual content in a linear way).

Although conceptualization overlaps considerably with thinking for speaking, it lacks its relativistic dimension since it is hypothesized to originate at the level of general cognition rather than being derived from the structural properties of the language being spoken. What is also worth stressing is that, in its present form, conceptualization extends beyond structural and semantic patterns by including what Lucy (2004) called discursive relativity, which manifests itself in the way people structure descriptions of events, interpret those events, and in what they choose to focus on when speaking. In this sense, it could be defined in terms of linguistic relativity. Additionally, one must not lose sight of the fact that the structuring of information in discourse is to some extent dependent on the available linguistic frames. What this means in practice is that conceptualization should not be stripped of its relativistic aspect but discussed in terms of an interplay between linguistic (relativistic) and conceptual factors.

The circularity of the above argument indicates that the conflation of the conceptual transfer hypothesis and linguistic relativity at some level is probably inevitable. As a matter of fact, it seems justified in view of the mutual dependencies between language and non-linguistic thought. Admitting that they are gradually becoming conflated could be compared to a statement that a coin has two sides, with each of them constituting a unique facet of the whole (see Fig.2).

¹ Also see the discussion on telicity.

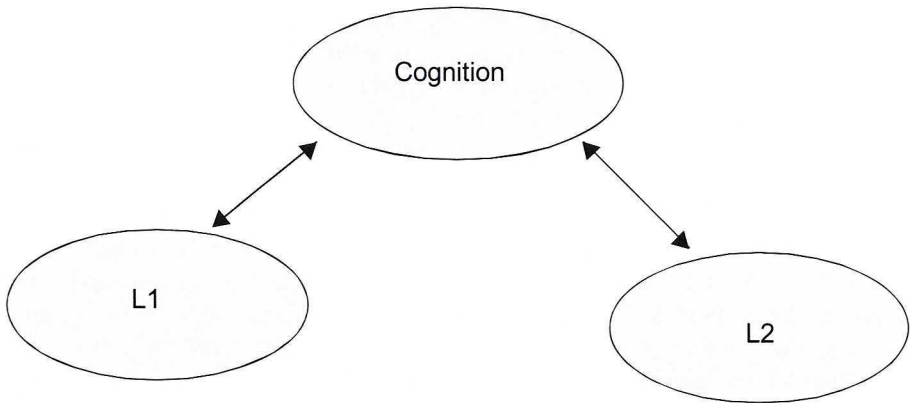


Fig. 2. Bidirectional interaction between the languages in bilingual memory and non-linguistic cognition

A potential hurdle that researchers are likely to stumble on is that, for practical reasons, the difference between various forms of conceptual transfer may be obscure. This is certainly the case with the representations and encoding of motion. Jarvis (2007) himself admits that it may be impossible to tease concept transfer and conceptual transfer apart. A similar problem lies at the heart of the contrast between conceptual and semantic transfer, which in a broader sense reflects the debate over the unity and/or disparity of the semantic and conceptual levels of representation. In the opinion of Jarvis and Pavlenko (2007), semantic transfer involves cross-linguistic influence at points where word meanings are mapped onto concepts. This is most obvious in cases of polysemy and homonymy, which varies in range across the linguistic spectrum. Consequently, mistakes such as “your lock is broken” made by a Pole who referred to a broken zip can be seen as resulting from an incorrect word-concept mapping, i.e. semantic transfer. In Polish ‘zamek’ is polysemous and signifies, among other things, zips and locks. On the other hand, the tendency to name ‘woolly hats’ ‘caps’ (PL *czapki*) by Polish learners of English exemplifies transfer at a conceptual level since the Polish concept of a cap as a form of headgear is broader than its English counterpart. It must be stressed however, that in practice it may be impossible to distinguish between these two types of transfer, especially in cases of direct semantic and conceptual overlap. This, in addition to more general theoretical considerations, accounts for the well attested tendency in psycholinguistic circles to use terms like ‘semantic’ and ‘conceptual’ interchangeably (Kroll and DeGroot 1997; Francis 2005; DeGroot 2002).

In conclusion, studies of the conceptual basis of bilingualism and SLA have led to the realization that the interface between language and cognition is probably multi-layered and is characterized by bidirectional interaction between language-mediated and language neutral effects. Consequently, the distinction between the linguistic relativity proposal and conceptual transfer hypothesis is beginning to fade away, a trend reinforced by the tendency to include relativistic research techniques in designs con-

cerned with cross-linguistic conceptual influence. Even so, whenever possible, the exact cause and effect sequence should remain clear. Advances in this field may certainly help resolve some of the theoretical debates that dominated bilingualism research over the past two or three decades. Especially relevant is the dispute over the semantic and conceptual levels of representations (Kroll and DeGroot 1997, Pavlenko 1999, 2005, W. Francis 2005), as well as some of the recently arisen ambiguities concerning the relation between concepts and conceptualization or the role of discursive relativity in the latter process. Secondly, the conceptual transfer hypothesis may help explain SLA dilemmas such as the irregularities within the natural route of development reported for Japanese learners of English, who unlike speakers of other languages, acquire the plural *-s* relatively late (Hakuta 1974). It is likely that these difficulties arise from differences in perception of number (Athanasopoulos 2006, 2008) rather than from the morphological complexity of its surface representation. Finally, even though there is mounting evidence that the acquisition and use of a second language affect both linguistic and non-linguistic levels of representation, every care must be taken not to overinterpret findings and/or generalize them to areas where conceptual effects do not obtain (Odlin 2003). That this can easily be done will be demonstrated on the basis of research into grammatical gender, which is described below.

Grammatical gender is notoriously difficult to acquire (Jarvis and Pavlenko 2007), especially for speakers of languages where animate nouns are given their biological gender, which is not morphologically marked on the noun (phrase). Also speakers of gender-marking languages experience difficulty when learning a gender-marking L2, which differs in the number of gender categories or in the type of category assigned to particular L2 translation equivalents (masculine in L1, feminine in L2). The latter type of contrast tends to result in erroneous gender attribution to L2 nouns, which are given the gender of their L1 equivalents (Dewaele and Veronique 2001). A number of recent studies of gender retrieval and transfer suggest that gender information is stored at the lemma level (Salamoura and Williams 2007; Scheutz and Eberhard 2004), which implies that transfer of gender categories is for the most part a syntactic phenomenon that controls agreement in the phrase/sentence, and which may have no impact on the information stored at the conceptual levels of representation. Two studies, however, show that gender effects run as deep as language-mediated cognition (Boroditsky et al. 2003; Sera et al. 1994), and influence non-linguistic thought and conceptualizations of objects. On a practical level, this results in habitual attribution of masculine or feminine characteristics to inanimate objects by analogy to their grammatical gender category.

What follows is a description of a pilot study conducted to test the hypothesis that grammatical gender has an impact on how speakers of a language with a grammatical gender system perceived inanimate objects, and to find out whether conceptual gender effects carry over to an L2, which does not mark nouns for gender (Boroditsky 2003). Its overall design was modeled on a study by Boroditsky et al. (2003) where significant cross-linguistic gender effects were obtained at the conceptual level of representation. The study had a preliminary character and was conducted to test for potential gender effects. The languages involved were Polish, which is a gender-marking (GM) language and English, which does not mark nouns for gender (non-GM language).

4. Background to the study: The Polish gender system

It is a partly arbitrary system, which consists of three categories (masculine, feminine and neuter) in the singular and just two categories (masculine personal and masculine impersonal) in the plural. Some researchers distinguish additional categories within the masculine singular type, i.e. masculine personal, masculine animate and masculine inanimate). Animate nouns often have their natural gender while in the case of inanimate nouns gender assignment is purely grammatical, with category membership being determined by morphology, i.e. inflectional patterns and congruence of case endings, i.e. of the nominative and accusative, both singular and plural (Nagórko 1998).

According to popular opinion, gender can be determined by **word endings**, i.e. words ending in a vowel are either feminine (-a and -i) or neuter (-o, -e, -ę) while those ending in a consonant are masculine (Stachera 2006). This turns out to be inaccurate as there are numerous exceptions, even among animate nouns, which often have their natural biological gender. Most notably, the Polish word for a man “mężczyzna” ends with a vowel. There are also numerous differences between usage and prescriptive norms. What this means in practice is that Polish nouns convey little information about gender at the surface level and that relying on word endings when assigning gender may be misleading. In fact, Nagórko (1998) expresses the view that in Polish gender is a syntactic category, which bears little relation to extra-linguistic factors. Her views are confirmed by findings from research into the tip-of-the-tongue phenomenon in Italian, which show that subjects can recall the grammatical gender of words that they cannot remember. Dewaele and Veronique’s (2001) interpretation is that in such cases subjects access the lemma, which stores syntactic and semantic information, without being able to access the corresponding lexeme.

Subjects

The subjects were Polish university students of English who were taught through the medium of English and who were at the advanced level of proficiency in the language (C1 and C2) as attested to by the Quick Oxford Placement Test. Overall about 30 students took part in the project. Each time they were divided into two groups of 15. Each group was tested in either L1 Polish or L2 English.

Tasks

The project consisted of three tests that were conducted within a three-week period at an interval of about a week between the testing sessions.

Task 1 focused on object description and was patterned on an equivalent task used by Boroditsky et al. (2003), who asked native speakers of Spanish and German to provide descriptors for a number of English inanimate nouns. The translation equivalents of the test words used in the study had contrasting genders in Spanish and German.

To compensate for the low number of test items, Task 1 was administered to a sample of 30 students. It contained a list of 6 items equally divided between the feminine and masculine genders (3 feminine and 3 masculine). 4 of those words denoted inanimate objects while the remaining two were used as test items to elicit the most typical descriptors of a particular gender. The masculine nouns included the following words and their English counterparts: *most*, *śmietnik*, *mężczyzna* (Eng. *bridge*, *rubbish skip*, and *man* respectively) while the feminine list consisted of *ulica*, *toaleta*, *kobieta* (Eng. *street*, *toilet*, *woman*). As in the Boroditsky et al. research (2003), the subjects in each group were asked to write down the first three adjectives that came to mind in response to the test words. To control for language mode (Grosjean 2001), the tests were conducted exclusively in the language of the test. The adjectives collected in this way were then arranged in alphabetical order and presented to two groups of raters who were asked to evaluate them in terms of their femininity and masculinity in one of the relevant languages. This time, however, their choice was not limited to two options, i.e. masculine-feminine. When in doubt, they were allowed to say so by choosing the 'I don't know' option.

Results

75% of the adjectives elicited in the Polish and English tests were translation equivalents, which seems to imply that both groups drew on the same experiential and conceptual resources when doing the tasks. There was also considerable cultural bias as 'street' was described as dirty, dark, dangerous, noisy and busy while 'toilet' was public, clean, smelly, dirty, ugly and stinky. About 48% of the English adjectives were rated as denoting masculine characteristics, 28% were feminine and 24% were indeterminate in terms of gender. The Polish adjectives were rated in a similar way with the masculine ones accounting for 48% and the feminine ones constituting 32% of the collected words. 20% of the words were hard to determine. There was consistency in the way translation equivalents were evaluated with about 64% receiving the same gender assignments in both languages. There was far less consistency in the attribution of gender to the test words proper. Of the Polish words, only *śmietnik* received a rating consistent with its grammatical gender. The others were undefined. Quite surprisingly, this shows that there are no conceptual gender effects in Polish. In English *bridge* and *rubbish skip* were definitely masculine, which reflected their L1 grammatical gender. This, however, lacks significance as in Polish *most* (Eng. *bridge*) was clearly indeterminate. Also worth pointing out is the fact that the participants of the rating task often opted for the 'I don't know' category, especially when referring to adjectives that seemed indeterminate in terms of gender (ugly, crowded, public and fee-paying). This may imply that at least some of the results in the Boroditsky et al. (2003) study might have been artifacts of a binary, i.e. masculine/feminine rating scale.

Task 2 attempted to isolate gender effects from semantic factors. Accordingly, both groups of subjects were presented with a list of ten surnames which, were neutralized in terms of nationality, i.e. they could be perceived as either Polish or English sur-

names (Garaden, Macuta, Hegler, Batusta). Five of these surnames ended in an -a, which in line with gender allocation rules indicated femininity while the other five were masculine as they ended with a consonant. The use of fictional surnames was modeled on the non-existent Gumbuzi language in the Boroditsky et al. study. This time, however, there was no formal teaching of gender categories and/or related rules prior to the task. The test was carried out in both Polish and English. The subjects were asked to attribute to each surname four of the adjectival descriptors used in Task 1 to describe *man* and *woman*. They were presented in a language box. Adjectives that the respondents used to describe both men and women were removed from the task. To be labeled as either feminine or masculine, a word was expected to be qualified by at least three adjectives from the same category. The descriptors are presented below.

Female descriptors: beautiful, moody, emotional, pretty, long-legged, loving, blonde, elegant, fresh, clever, smart, graceful, feminine, tender, passionate, slim, gentle, fragile, sensible, careful

Male descriptors: big, talkative, sex-obsessed, well-built, fat, strong, black, responsible, handsome, social, outgoing, human, masculine, thinking, kind, funny, nice, powerful, aggressive

Results

Of the names tested in English only two were given descriptors that reflected their grammatical gender. In Polish that was the case with four items only. These results seem to confirm Nagórko's (1998) claim that in Polish gender is a purely syntactic phenomenon, which has little or no impact on the underlying conceptual representations. Lucy (personal communication) is of the opinion that cognitive gender effects may be found in languages like Spanish, which systematically mark gender on the lexical noun. Languages, like Dutch which systematically mark gender peripherally to the noun, i.e. in the noun phrase only, may not show such effects. Polish, like Spanish, marks gender on the noun, however, gender marking is desemantized in the language, which is probably the reason why it is unlikely to have an impact on cognition in the manner demonstrated by the Boroditsky study. Besides, some of the effects obtained by Boroditsky seem questionable in light of the fact that they could have been artifacts of the data collection procedure. Even the results obtained for the artificial language Gumbuzi might have been affected by the way they were presented and by the categorization strategies used by subjects during memorization. Also, as there was no attempt to use the words in communication we cannot be certain that they had the same impact on representation as natural language structures.

Task 3 was a name association task where the subjects were asked to assign first names (Paul, Jane and the like) to a list of 10 surnames that were neutral in terms of nationality (see Task 2). 5 of them ended in a vowel indicating femininity, the other 5 ended in a consonant. The surnames were chosen in an attempt to deprive the test words of conceptual content. The results show that word endings were insignificant as most surnames received male names in both languages. This once again confirms that

in Polish word endings alone do not contain enough information to indicate gender (e.g. Robert Kubica, the formula one driver).

All in all, the results of this small-scale study highlight the need for more research and careful analysis of findings. As has been demonstrated, conceptual transfer is not a blanket phenomenon covering indiscriminately all cases of potential language – induced conceptual contrasts. Rather, it is now evident that not every language – specific structure has an impact on cognition (Odlin 2003: 466). Accordingly, it seems very likely that research into conceptual transfer may face the same dilemma that contrastive analysis faced some thirty years ago when it was discovered that a) some errors had sources other than L1/L2 structural differences, and that b) structural differences did not always result in errors. This pilot study into gender effects seems to show that relativity-induced conceptual contrasts may be linked not to structural differences in general but to very specific structures and their linguistic functions. This somewhat unpredictable aspect of linguistic relativity was highlighted by Odlin (2003: 466), still it is likely that some data may be misinterpreted as indicating cognitive differences in contexts where they do not obtain. One of the challenges that future research will be confronted with will be to delimit the exact conditions under which conceptual transfer occurs and the forms it exhibits.

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