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# What our mental lexicon tells us about ourselves: on cross-cultural differences

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## 1. Introduction

The presentation focuses on one aspect of the phenomenon of bilingualism: the way a bilingual user stores lexical items in his memory. The system of storage will be described by means of **the lexicon metaphor**, which according to Dechert (1998:1):

(...) may serve to conceptualise the structure of the interaction of languages in a bilingual or multilingual dictionary as the model of the source domain: the analogy of lists of lexical items in one language with their translation equivalents in the other language(s) (...) the lexicon metaphor may serve to model the relation of lexical items in various languages with their referents in the real world.

The major focus of the mental lexicon studies covers the problem of vocabulary development (McCarthy, 1954), language contact (Weinreich, 1953), interaction and transfer (Kellerman, 1983; Gass & Selinker, 1983, 1992), the latter gaining prominence and being widely investigated at present.

The major concern of this study is the examination of the interaction of L1 (Polish and Portuguese) and L2 (English) based on results of association tests. The analysis will be carried out with respect to cross-cultural similarities and differences as observed in the test results.

## 2. Mental lexicon of a foreign language user

### 2.1. Mental lexicon

Following the interpretation of the lexicon metaphor, mental lexicon of any language user could be defined as **a system of storage, containing information concerning phonological, morphological, syntactic and semantic data** of lexical items or fixed phrases. However, it seems more rational to define it as **a conceptual system**, rather than a pure inventory of entries, with strong emphasis on its **processing aspects**.

In the case of a mental lexicon of a bilingual user or an advanced learner of a foreign language, it is not clear yet whether he can be treated as a proud owner of **two separate mental lexicons**, each of them operating separately for each of the languages with only occasional links, references being made or no contact at all (**the independency hypothesis**), or whether there is **only one storage for both languages**, in which there are language specific tags operating within one memory (**the interdependency hypothesis**).

Levelt (1989) proposes a description of **mental lexicon entries** operating on three levels of lexicosemantic information and processing: CONCEPTS, LEMMAS and LEXEMES:

CONCEPTS refer to meaning configurations in the conceptual system LEMMAS are the parts of lexical items containing the semantic and syntactic information; and LEXEMES are the parts of the lexical items containing the morphophonological information.

According to Levelt (1989) and Garrett (1990) different processes of activation of various levels interact in memory recall of a lexical items and involve combinations of different level information.

The **concept level** is often described as language independent, unlike the remaining two which have to be language specific. Concepts existing in two languages will be the same but their linguistic realisation will differ on the lexemic level.

This study is concerned with nonlinguistic (language independent) level of concepts and examines nonlinguistic variables such as **cultural background of different nationality groups of subjects**.

## 2.2. Association tests

In the studies of mental lexicon a variety of experimental techniques can be used, among these: recall of words, translation tasks, naming pictures, lexical decision tests (judgement tests) and **association tests**.

**Associations** are defined as:

Probability relationships between cues and behaviour, maybe the information that flows through our information-processing models and diagrams

(Houston, 1981: 353)

In **word-association tests** the testee is asked to give the first word that comes to his mind in response to a stimulus word. The responses are very often unoriginal and form certain patterns, suggesting that words are organised in our minds into a well-defined structure on the one hand and on the other hand, they may reveal the affective, cognitive and culturally specific behaviour of a subject in question.

Fig. 1 (Houston, 1981: 131) describes the concept of association in more detail, enumerating the variables involved in associative processing:

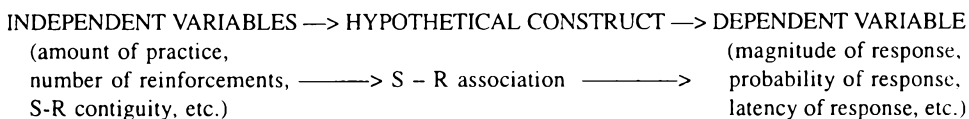


Fig. 1. S-R association (after Houston)

Associative learning theory has been using the models of associative processing in studies on memory and verbal learning in general.

In associative learning three general types of association processes can be observed:

- a. **association by contiguity** (e.g. *chair* and *table*)
- b. **association by similarity** (e.g. *soft* and *smooth*)
- c. **association by contrast** (e.g. *black* and *white*)

(Richards, 1985:19)

The above categories can be developed further into a typology which would account for associations made by bilingual (multilingual) language users (Table 1):

**CONTENT FOCUS**  
**Semantic associations**  
 (paradigmatic):  
 co-ordination

**FORM FOCUS**  
**Syntactic associations**  
 (syntagmatic):  
 collocation

clang

superordination	other (e.g. graphic/phonetic similarity)
synonym (near-synonym)	
antonym (near-antonym)	

translation\*

\* for tests 2,3,4

*Table 1. Content versus form associations*

\* Translation type for mixed language test.

*Superordination* describes an association in which a superordinate word is given as a response, e.g. *tulip* and *flower*.

*Clang* is an example of a rhyming association, e.g. *buy* and *tie*. Other associations belonging to a group of FORM FOCUS associations may make use of graphic or sound similarities between words given as stimulus and response received from the testees.

Thus, the main assumption of the associative processing may be defined as Deese (1965) puts it:

(...) sorting out meaningful – and that is, logical and syntactic relations among words – contrast and grouping. We can establish the position of any given element in a language within the larger vocabulary of the language by contrasting it with some element or elements and/or by grouping it with respect to some other element or elements. Which of these two processes operates at any given moment depends upon conditions at least partly dependent upon non-verbal experience to which the verbal elements refer or are related.

This study focuses on non-verbal experiences mentioned by Deese, namely connotative values brought about by certain words, determined by either historical, political, social, educational or national background of a language user.

Any word can be described (Labov in Aitchison, 1988) as “the most central element in the system of communication”. Lexical items of a word association test can be described as either **universal, loaded or personal**. **Loaded words** carry certain **connotative meanings**, which are usually characteristic of a culture represented by a given speaker or a group of speakers and usually yield standard and unanimous (to some extent) responses in a test. They are stereotypical and unoriginal as far as a selected group of language users is concerned.

Loaded words carry the weight of cross-cultural differences.

### 2.3. On cross-cultural differences

The development of international communication in a variety of contexts, be it institutional or personal, brought a shift from focus on language structure to meaning with special emphasis put on **pragmatics** of language use, prominence given to **appropriateness** of language use in a given context, depending on topic, setting, status, audience, etc. Non-verbal communication and its manifestations by means of gestures, study of proxemics, became a part of language understanding and instruction.

On the other hand, the development of **cognitive sciences** (cognitive linguistics or psycholinguistics) brought about a new view of language, now seen as **a system of metaphor**, functioning universally – across languages. Since all human beings despite their mother tongue background share the same characteristics in terms of their primary needs in life, this is being reflected in language: it forms basis for its metaphoric character (Lakoff & Johnson, 1980).

However, universal concepts expressed by languages evolve and are shaped by the **contexts**: historical, national, political, etc. And who we are (and language is the form of expression) is not universally predetermined but shaped by past and present, here and now, education, age, among others.

Pragmatic approach to language instruction and communicative methodologies introduces the concept of **cultural awareness** (Tomalin & Stempleski, 1993: 5), the term used to describe:

sensitivity to the impact of culturally-induced behaviour on language use and communication.(...) beliefs and values, as well as everyday attitudes and feelings conveyed not only by language, but by paralinguistic features such as dress, gesture, facial expression, stance and movement.

Language used for communication purposes is the best instance of a culturally induced behaviour and as such **a loaded weapon**, carrying not only straightforward messages, but hidden ones as well: the whole range of connotative meanings beyond.

These connotative meanings reflect speaker's affections and attitudes, which as has been already mentioned elsewhere, may be shared by a group of people whose cultural, social and, I would say, national backgrounds are the same. This area of cross-cultural differences expressing values, beliefs and attitudes, often leads to creation of **preconceptions and national stereotypes**.

In this study I would like to see whether such stereotypes are reflected in the subjects' mental lexicons and whether they cross the borders of languages (L1 and L2) or whether they are stable, no matter which language the subject activates at the moment.

### 3. The study design

#### 3.1. Research questions

On the basis of the data received in the association tests: words selected according to the categories suggested by the testees, I will try to give answers to the following research questions:

- Do the advanced foreign language learners produce the same types of semantic links (i.e. associations) in both their L1 and L2 or whether the types of associations produced by them in tests differ?
- Are the responses within the group of the subjects with the same L1 background similar or different with reference to their semantic concept?
- Does L1 mental lexicon of the subjects represent the value system of their native culture?

In other words:

- Do mental lexicons of subjects with different L1 represent different values and beliefs?
- Can a transfer of L1 value patterns be observed in L2 mental lexicons of the same subjects?

In other words:

- Does a foreign language learner adopt values of L2 (FL) as reflected in his semantic associations in L2 tests?

#### 3.2. Sample selection

The data received in the study was collected from two groups of foreign language learners (150 in total), compatible in terms of their profile. They were all young adults, highly competent users of English, all students of university departments of English. They differed in terms of their mother tongue background: **group A** consisted of native speakers of **Polish**, while **group B** of native speakers of **Portuguese**.

All of the subjects have been taught English in formal, i.e. classroom settings, both receiving their language instruction in a fairly similar mode in terms of methodology, types of courses in practical English and exposure to native and non-native language instructors.

### 3.3. Research method

The research method employed consisted in administering a battery of four association tests (S→R type). The association tests used consisted of a hundred lexical items of frequent occurrence and were a slightly modified version of Kent-Rosanoff test. The tests were given in three languages: L1 – Polish (group A), L1 – Portuguese (group B) and L2 – English (group A and B). Each test was administered to both groups at weekly intervals (Table 2):

Test	Group A	Group B
<i>Test 1 (L1→L1)</i>	<i>Polish→Polish</i>	<i>Portuguese→Portuguese</i>
<i>Test 2 (L2→L2)</i>	<i>English→English</i>	<i>English →English</i>
<i>Test 3 (L1→L2)</i>	<i>Polish→English</i>	<i>Portuguese→English</i>
<i>Test 4 (L2→L1)</i>	<i>English→Polish</i>	<i>English →Portuguese</i>

Table 2. Association test types

As in most word-association tests, the subjects were instructed to give the first word that came to their mind as a response to a stimulus word in a limited period of time (10 minutes for the whole test). The responses were to be given automatically and without going back to the zero responses, even if time for the task was not exceeded.

Having completed the association tests, one of the groups (group A) was asked to mark on the tests those lexical items which for them were **culturally loaded** and those which were **personal ones**.

Later on the selected items have been **categorised** as belonging to wider subordinate categories. Since the major research area of this study is cultural awareness, only the **selected loaded words** were considered in further analysis of the data.

The lexical items marked by the students and selected for the purposes of further analysis seem to fall into the following semantic categories (Table 3):

Category	Lexical items selected
RELIGION	Bible, religion, priest
HOME	house, bread
NATION	eagle, soldier, justice
COLOURS	white, red

Table 3. The loaded words (selected by the subjects)

The above selected items were selected by above 50% of all the subjects. A very close numbers (but below 50%) were given to the words: *earth, man, woman, boy, table* came, came as the next set of so-called loaded words but received less than 50% and were excluded from the analysis.



## 4. The data presentation and analysis

### 4.1. Types of associations in L1 and L2

The data received by means of a battery of tests is presented in Table 4. It describes different types of associations for the two groups of subjects.

GROUP	TYPE OF ASSOCIATION	TEST 1	TEST 2	TEST 3	TEST 4
		(L1→L1)	(L2→L2)	(L1→L2)	(L2→L1)
A	coordination	50	40	40	45
	superordination	10	2	4	0
	synonym /translation*	10	10	4/30*	6/25*
	antonym	5	20	1	1
	collocation	25	28	21	23
B	coordination	50	47	24	14
	superordination	5	7	0	1
	synonym/translation*	15	17	6/68*	5/76*
	antonym	5	7	0	0
	collocation	25	22	2	4

\* Translation type for mixed language test

Table 4. Types of associations (for individual items see Appendix) (in percentage)

#### Comments

All the responses received in the association tests were of a semantic type, both syntagmatic and paradigmatic; no instances of form focused answers were found.

#### Group A (Polish students)

As far as **similarities** between Test 1 (L1 based) and Test 2 (L2 based) are concerned, the most observable are:

- the highest scores for **coordination** type of associations for both tests, which might suggest that in both cases lexical items are stored in **semantic fields**, i.e. build around certain themes, e.g. *priest-church-sermon-pray*, or *Bible-religion-God-Jesus*;
- high scores in L1 and L2 of **collocations**, mostly as might have been expected, for adjectives. This type of association seems to be one of the strongest links in native speakers' mental lexicons (Aitchison, 1988), here it is also present – it can be attributed to learners proficiency in language and word selection (highly frequent stimulus words), e.g. *white snow* or *red carpet*.

The above mentioned similarities can be observed in all four tests, when the subjects were asked to associate “across the languages”, which might imply that both L1 and L2 lexical stores are being activated at the unconscious level.

However, the instances of **differences** between L1 and L2 recall can be observed as well:

- **superordination** type is very low, both in L2 and “across languages” responses, it could be hypothesised that although the subjects store words in semantic fields (as the study showed), the lexical items are not highly structured, e.g. in terms of subordination, unlike in case of native speakers;
- high scores for **antonyms** (in L2 only) with respect to specific lexical item, i.e. adjective *white*, which seems to invariably call for *black*. It might be caused by frequency of the phrase *black and white* in English and its use in Polish units original English form. On the other hand, it can be an example of transfer of training (teaching/learning through antonyms).

#### **Group B (Portuguese students)**

In the case of the Portuguese subjects the **similarities** between Test 1 and Test 2 are noticeable in case of:

- **coordination** and **collocation** type of association (like in case of Polish group).

On the other hand, in case of Test 3 and Test 4:

- the same types of associations score very low (unlike in Polish group’s tests);
- the subjects seem to associate through **translation**: 68% and 76% scores (**interdependency model**).

The above observations might imply that this particular group of learners operates in two **lexicons** and with synonymity links across L1 and L2. It might be due to the fact that group’s B language competence is lower than group’s A. Mental lexicon has been seen as **developmental and not constant**, changing its structure with growing language competence of a learner.

## 4.2. Associations as examples of cross-cultural similarities and differences

The responses of all the subjects taking part in the study were highly **unoriginal and stereotypical** within each of the group and across the groups. They were more homogenous than might be expected. The words selected by the subjects as “culturally loaded” seemed to yield universal responses. However, certain examples of **differences** can be quoted here (Table 5).

Word category	Similarities	Differences	
		Polish	Portuguese
1. RELIGION <i>Bible</i>  <i>religion</i>  <i>priest</i>	<i>religion, god, priest, church</i>  <i>God, priest, church, catholic</i>  <i>church, uniform, black, mass</i>	<i>good, sacred, tradition</i> <i>Catholicism</i>  –	<i>unsatisfactory, ignore</i> <i>Islam, Buddhism, separate, taboo, dogma</i> <i>wedding</i>
2. HOME <i>house</i>  <i>bread</i>	<i>family, garden, protection, shelter, warmth</i>  <i>food, butter, good, eat</i>		<i>white, my flat</i> <i>solidarity</i>
3. NATION <i>eagle</i>  <i>soldier</i>  <i>justice</i>	<i>fly, bird, liberty, freedom</i>  <i>army, war, warrior, troops</i>  <i>law, judge, court, lack of, doesn't exist, injustice</i>	<i>white, emblem</i>  "wojak", <i>cavalry(ułani)</i>	<i>birds of prey: falcon, hawk, condor, Benfica</i> <i>II World War</i> <i>my boy-friend</i> <i>American, utopia, blind</i>
4. COLOURS <i>white</i>  <i>red</i>	<i>black, snow</i>  <i>blood, dress, rose</i>	–  <i>spiderweb</i> <i>flag, curtain, ribbon</i>	<i>wine, pure, innocent</i> <i>Benfica, heart, sexy</i>

Table 5. TEST 1: Content focus (response similarities and differences (Polish-Portuguese))

### Comments

The differences observed apply to: BELIEFS, VALUES, ATTITUDES and FEELINGS. All the culturally loaded words can be categorized into:

- a. **daily** (e.g. HOME category),
- b. **metaphoric** (e.g. COLOURS category).

Within the **daily category** the responses are very similar, e.g. *home* is usually associated by both groups with: *warmth, shelter, protection*.

However, Portuguese group stresses the individual and personal character of home by the use of possessive pronoun *my*, e.g. *my flat, my garden, my family*, which seems to be absent to Polish responses, which are much more general.

Another daily category of words signifying RELIGION offers examples of differences. In case of Polish learners there are references made to catholic religion, tradition and positive attitude towards it. Whereas Portuguese students seem to respond with all sorts of associations to the word *religion*, e.g. *Islam, Buddhism, variety, lots of*. The attitudes expressed are different, too:

they are extremely often negative, e.g. *taboo, dogma, ignore, unsatisfactory*. These values expressed by the young people might be a reflection of the changing Portuguese society under the influence of the new European reality, the society which has often been considered very conservative and catholic. These values seem to disappear from life or are at least not so strong as they used to be. The only value that persists is family.

Within the group of **metaphoric** words, some bring more connotations and symbols than the others. *Justice* is for both groups of subjects treated with a lot of scepticism, so the responses express negative attitudes, e.g. *non-existent, blind*.

Among the NATION category, probably the word *eagle* is the best example of different connotations brought about by different ways of upbringing in terms of values. For Polish learners obvious and often produced associations are: *white. Poland, emblem*. In the case of Portuguese subjects: *hawk, condor, falcon* – just examples of birds of prey, affectively neutral. The only loaded association found: *Benfica*, refers to one of the most favoured football clubs of Portugal (Eagle is a symbol of the club).

Most of the responses to the word *soldier*, were highly unoriginal for both groups: *war, uniform, fight*. However, again in Polish responses could be found references to our history: *cavalry* (Polish troops before the war), a very loaded word. Portuguese subjects (female) on the other hand, would produce *boy-friend* as an association to *soldier*.

Most visible examples of connotative meaning were carried by the category of COLOURS: *white* and *red*. Again Polish subjects tended to express their experiences of the past connected with the history of our country, e.g. *red: ribbon, flag, carpet, spiderweb*, while Portuguese students would produce such associations as: *white wine, red: heart, sexy, Benfica* (red is one of the colours of Benfica football club) – all loaded words but referring to everyday matters and interests.

### 4.3. Transfer of values and attitudes between L1 and L2

Having analysed the types of associations the subjects produced in their L1 and L2, I would like to make a few comments concerning the concepts expressed, i.e. I will try to give an answer to a question whether **L1 values** are expressed in **L2**, or whether subjects **adopt values of L2** when “functioning in L2”.

In majority, the responses in L1 and L2 do not differ significantly in terms of values, attitudes and feeling expressed, but there are various examples of associations in L2, not to be found in L1 (Test 2).

The following may be the illustration:

*home: my home-my castle, detached*

*eagle: USA, Indians*

*white: lie, musk*

*red: herring, tape*

These examples can be interpreted not as a **shift of values** but instances of the experience of **L2 language learning** and possibly, **transfer of training**.

In Test 3 and Test 4 the associations are identical with those in mother tongue, with the prevailing number of **translations**. The use of translation which is still a technique in vocabulary learning, may be an instance of transfer of training.

To sum up, it would be difficult to observe any conceptual change from L1 to L2. **Concepts appear to be language independent.**

#### 4.4. Final comments

a. Since the purpose of this paper was not the discussion of a hypothetical **structure of a FL learner's mental lexicon**, the comments concerning the above are brief and few. It seems that at the unconscious level of automatic processing such as associating, both groups of subjects activate lexical items in the same way in test 1 (L1) and test 2 (L2). It might be assumed that the structures of L1 and L2 storage are identical (or semi-identical).

However, in test 3 (L1→L2) and test 4 (L2→L1), i.e. in a mixed language stimulus/response pattern, a different type of links between lexical items can be observed in each of the groups. Group A seems to associate across languages in a similar way to L1 and L2 (test 1 and test 2). This type of processing is more characteristic of **language acquisition**.

On the other hand, group B makes direct equivalence associations in a form of translations, which is more frequent in **language learning** (i.e. learning a language in a formal setting).

Similar results were brought about by a study conducted by Brosig (1996: 323):

Spontaneous translations might give evidence of underlying mental connections within and between languages (...) It might be indicative of an associative learning under LL (formal) conditions by closely connecting L1 and L2 items like in word-books which is actually the way most students learn their SL vocabulary at school.

Both **tendencies** give evidence of **interdependency hypothesis** of a bilingual mental lexicon. As already mentioned the differences between

the two groups of subjects may be determined by a difference in language proficiency and prove that mental lexicon is **developmental**. At higher levels explicit knowledge becomes implicit and allows for automatic processing of lexical items independently of language stimulus.

**b. When commenting on universal principles of lexical organisation** Aitchison (1988: 356) states:

It is clear that in the mental lexicon there is no fixed meaning, that is, there are no necessary and sufficient conditions (...), we are probably dealing with a fuzzy lexicon, in which people work with some kind of prototype, and then have to actively match what they are dealing with against this prototype using some type of preference rule system.

What is more, people who represent cultures which are dissimilar, may classify things differently so establishing direct equivalences between two languages in question might be a hard or even impossible task to do. In case of the subjects of the present study, the cultures are close: both European, both historically cherishing the same basic values (e.g. religion and family). However, the study data showed (examples already presented) the differences. Associations received were **similar** in the case of **concrete nouns** which seem to be closely linked across languages and **diverse** in the case of more **abstract** and **metaphoric**, lexical items, which are very strong in their **connotative meaning**. These examples of diversity can be easily explained by the present day conditions of life, attitudes and values Polish and Portuguese people developed.

The analysis of cross-cultural differences observed might support the **tripartite hypothesis of a mental lexicon** (Brosig, 1996: 322):

The Tripartite Hypothesis assumes a separate storage of language specific items, but a common storage of other elements.

It can be claimed that **culturally loaded items** associated differently in different languages and yield different types of associations.

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## Appendix

Word	Group	Type of association	Test 1	Test 2	Test 3	Test 4
"Bible"	A	coordination	80	65	70	80
		superordination	0	0	0	0
		synonym/translation*	20	35	0/30	5/10*
		antonym	0	0	0	0
		collocation	0	0	0	5
	B	coordination	90	100	50	25
		superordination	0	0	0	0
		synonym/translation*	0	0	50*	70*
		antonym	0	0	0	0
		collocation	10	0	0	5
"religion"	A	coordination	99	60	70	60
		superordination	0	0	0	0
		synonym/translation*	0	25	20	10/20*
		antonym	0	0	0	0
		collocation	1	15	10	10

Word	Group	Type of association	Test 1	Test 2	Test 3	Test 4
	<b>B</b>	coordination	50	30	20	25
		superordination	0	15	0	0
		synonym/translation*	25	20	80*	70*
		antonym	0	0	0	0
		collocation	25	25	0	5
"priest"	<b>A</b>	coordination	100	90	70	70
		superordination	0	0	0	0
		synonym/translation*	0	10	30*	25*
		antonym	0	0	0	0
		collocation	0	0	0	5
	<b>B</b>	coordination	100	100	20	25
		superordination	0	0	0	0
		synonym/translation*	0	0	85*	75*
		antonym	0	0	0	0
		collocation	0	0	0	0
"house"	<b>A</b>	coordination	70	60	50	35
		superordination	0	0	0	5
		synonym/translation*	30	10	20/30*	15/40*
		antonym	0	0	0	0
		collocation	0	30	0	5
	<b>B</b>	coordination	50	20	10	0
		superordination	0	10	0	0
		synonym/translation*	50	50	10/80*	5/85*
		collocation	0	20	0	10
		antonym	0	0	0	0
"bread"	<b>A</b>	coordination	30	70	40	35
		superordination	10	10	10	0
		synonym/translation*	0	0	20*	0/35*
		antonym	0	0	0	0
		collocation	60	20	30	20
	<b>B</b>	coordination	50	60	15	10
		superordination	20	20	0	0
		synonym/translation*	0	10	80*	85*
		antonym	0	0	0	0
		collocation	30	10	5	5
"eagle"	<b>A</b>	coordination	10	0	0	20
		superordination	0	40	30	0
		synonym/translation*	50	30	20/30*	20/35*
		antonym	0	0	0	0
		collocation	40	30	20	25
	<b>B</b>	coordination	45	30	10	0
		superordination	35	20	0	10
		synonym/translation*	0	20	60/30*	70/20*
		collocation	20	30	0	0
		antonym	0	0	0	0



"soldier"	A	coordination	100	100	60	80
		superordination	0	0	0	0
		synonym/translation*	0	0	40*	20
		antonym	0	0	0	0
		collocation	0	0	0	0
	B	coordination	100	100	30	30
		superordination	0	0	0	0
		synonym/translation*	0	0	70*	70*
		collocation	0	0	0	0
		antonym	0	0	0	0
"white"	A	coordination	20	0	15	0
		superordination	0	0	0	0
		synonym/translation*	0	0	20*	35*
		antonym	40	30	15	10
		collocation	40	70	50	55
	B	coordination	0	0	0	0
		superordination	0	0	0	0
		synonym/translation*	25	20	15/80*	10/80*
		antonym	50	50	0	0
		collocation	25	30	5	10
"red"	A	coordination	0	0	0	0
		superordination	0	0	0	0
		synonym/translation*	0	0	15	0
		antonym	0	0	0	0
		collocation	100	100	85	100
	B	coordination	0	0	0	05
		superordination	0	0	0	0
		synonym/translation*	30	20	20/70*	10/80*
		antonym	0	0	0	0
		collocation	70	80	10	10
"justice"	A	coordination	95	70	50	65
		superordination	0	0	0	0
		synonym/translation*	0	10	8/42*	35*
		antonym	0	0	0	0
		collocation	5	20	0	0
	B	coordination	70	60	30	15
		superordination	0	0	0	0
		synonym/translation*	30	20	70*	5/80*
		antonym	0	20	0	0
		collocation	0	0	0	0

\* Translation type for mixed language test

**Table 1. Types of associations (individual lexical items) (in percentage)**

Danuta Gabryś

## Słownik wewnętrzny (*mental lexicon*) osoby bilingwalnej a różnice kulturowe

### Streszczenie

Artykuł dotyczy jednego z aspektów bilingwalizmu, tj. sposobów kojarzenia słów w języku pierwszym (L1) i w języku obcym (L2). Dane zostały zebrane na podstawie testów skojarzeń słów o wysokiej częstotliwości występowania, którym poddano dwie grupy studentów o różnych językach pierwszych. Grupę pierwszą stanowili studenci polscy z zaawansowaną znajomością języka angielskiego, a drugą – studenci portugalscy, również zaawansowani w zakresie kompetencji w języku angielskim. Analiza danych pokazała, w jakim stopniu skojarzenia w języku pierwszym i drugim wykazują podobieństwa oraz różnice kulturowe pomiędzy dwiema badanymi grupami.

Danuta Gabryś

## Der innere Wortschatz (*mental lexicon*) einer bilingualen Person und Kulturunterschiede

### Zusammenfassung

Der Artikel betrifft einen der Aspekte des Bilinguismus, d.h. die Möglichkeiten der Assoziation der Wörter in der Muttersprache (L1) und in der Fremdsprache (L2). Die Daten wurden anhand der Assoziationstests der Wörter von einer großen Frequenz des Auftretens gesammelt, den zweit Gruppen von Studenten mit verschiedenen Muttersprachen unterzogen wurden. Die erste Gruppe bestand aus polnischen Studenten mit fortgeschrittenen Englischkenntnissen, die zweite Gruppe bildeten portugiesische Studenten auch fortgeschritten in Englischkenntnissen. Die Analyse der Daten hat gezeigt, im welchen Grad die Assoziationen in der Muttersprache und in der Fremdsprache die Ähnlichkeiten und Unterschiede im Bereich der Kultur zwischen den beiden untersuchten Gruppen aufweisen.