Sveučilište u Zagrebu

Filozofski fakultet

Odsjek za anglistiku (Katedra za metodiku)

Odsjek za istočnoslavenske jezike i književnosti (Katedra za ruski jezik)

Proučavanje asocijacija u multilingualnih osoba: međujezično istraživanje

Diplomski rad

Studentica: Magdalena Šlopar

Mentorice: dr.sc. Branka Barčot

dr.sc. Stela Letica Krevelj

Ak. god.: 2018./2019.

U Zagrebu, 9. srpanj 2019.

University of Zagreb

Faculty of Humanities and Social Sciences

Department of English (TEFL Section)

Department of East Slavic Languages and Literatures (Chair of the Russian Language)

Studying associations in multilinguals: a cross-linguistic study

Master's thesis

Student: Magdalena Šlopar

Supervisors: Branka Barčot, PhD

Stela Letica Krevelj, PhD

Academic year: 2018/2019

Zagreb, July 2019

Университет в Загребе

Философский факультет

Отделение англистики
(Кафедра английского языка как иностранного и методики его преподавания)

Отделение восточнославянских языков и литератур
(Кафедра русского языка)

Изучение ассоциаций у мультилингвов: кросс-лингвистическое исследование

Дипломная работа

Студентка: Магдалена Шлопар

Руководители дипломной работы: д.ф.н. Бранка Барчот

д.ф.н. Стела Летица Кревель

В Загребе, 9-ое июля 2019 г.

Examining Committee:

Izv. prof.dr.sc. Renata Geld

Doc.dr.sc. Branka Barčot

Dr.sc. Stela Letica Krevelj, poslijedoktorand

Contents

Abstract

In the literature on mental lexicon, associations are used as a way to inspect that elusive human mechanism. Researchers have until recently mostly opted for studies based on monolingual participants, but language and, therefore, cultural communities are nowadays perceived as "melting pots" and they are mostly multilingual due to different cultural backgrounds of their members. This thesis aims to explore associations and mental lexicon organisation of multilingual speakers of Croatian, English and Russian. Association questionnaires have been used to collect data which has further been statistically analysed and explained in terms of associative fields and conceptualisation overlaps caused by typological closeness of languages at large and their status in users' repertoires. Based on a review of the literature on linguistic culturology, the Slavic etymology and tradition that Croatian and Russian languages share shapes the way in which speakers form their linguistic picture of the world. Analysis of the responses has shown that the conceptual categories in participants' languages are often mediated by the L1 concept and that many variables, such as e.g. participants' language proficiency and word-related variables have an effect on the answers in the three languages. Due to a small sample of participants the results obtained are only tentative and further research is needed.

Keywords: word associations in Croatian, Russian and English languages, mental lexicon, linguistic culturology, associative field, conceptualisation.

1. Introduction

Knowing a language is relative, and depends on multiple aspects of self-perception of a speaker, but mostly on the speaker's ability to understand and produce utterances, or at least words. Any (experienced) learner would agree with the statement that without words, i.e. vocabulary, we would not be able to communicate our complex thoughts, nor express our essential needs in a meaningful way. Both of these aspects of human communication have been studied by experts from various scientific perspectives, and the same applies to linguistics as well.

Humans are aware of the fact that we communicate, but are they aware of how that comes about? Yes, we usually know that we use strings of words that are combined in a meaningful way, but when it comes to understanding the process of connecting those words, we have sorted out just a few facts – many people take our ability for granted. Laymen are not interested in processes of word acquisition and their organisation in our minds, and the linguists that do make the effort can usually work through only a part of the data they gain because human minds have still not been investigated enough to understand how they work. For example, when it comes to processing input, man's best friend can make connections with commands and actions only within 3 seconds and only one link – action and then reward. Anything longer than that and the drill would have to be started over, because they will not remember what was required of them.

So, if both the human brain and the mind are a riddle to us, how are we as linguists trying to combat the elusiveness of the processes and information stored in there? What are the strategies we use to outsmart ourselves? How far can we track human mental processing if we are considered to be of higher and more complex cognitive development than dogs? Are we able to track our mental processing further than only one mental link and for longer than 3 seconds? How do we choose the words we are connecting and how are we able to decide which word to use if we are, for example, able to communicate in at least one or two foreign languages?

Many writings of linguists have regarded syntax, which involves combinations of words, as more important than the words themselves. This had led to the underestimation of the lexicon itself and in related research, vocabulary itself has so far been heavily examined without any meaningful insights on how speakers acquire it – it has always been given a secondary status. Coady (1993) assumed that L2 vocabulary, like L1 vocabulary, would take care of itself (as cited in Schmitt, 2000, p.14). But today we are far from the times in which vocabulary was assumed to be, as

Bloomfield stated, an "appendix of the grammar, a list of basic irregularities" (as cited in Aitchison, 1987, p. 26).

As vocabulary is obviously too difficult to be systematically taught because it depends on our limited personal experience of the actual world reality, one could state that the relationship between a word and its concept is the most important. Unfortunately, it is not an organised and straightforward relationship, because "the world holds too many things for us to have one word for each; we economise by using words in more than one sense, leaving context to disambiguate" (Swan, 2017, p. 1). To illustrate, what is the difference between words *'walk'* and *'run'* – when does walking turn into running? There are countless definitions and explanations and all of them are motivated by sense relations, as well as core meaning and encyclopaedic meaning. Therefore, relationships made between concepts are usually unique within a specific culture, but do not have to be valid for a different culture dealing with the same concepts. Also, the fact that different people can possess different (quantities of) encyclopaedic knowledge is the reason why we experience "fuzzy" meaning, or, to be more precise, some people think that *'jogging'* is fast walking and others consider it running.

It seems logical to assume that the relationships that we as learners have are not random, but that they reflect some type of underlying mental relationship in the mind (Schmitt, 2000, p. 18). This takes us back to the topic of the present master's thesis, which provides information about word association theory, related studies in linguistic culturology, as well as a research study on mental lexicon of multilingual learners of Croatian, English as the second language (L2) and Russian as the third language (L3). We are approaching this topic bearing in mind previous research carried out with "a focus on the question of whether words in two languages are linked to a common store of concepts, or whether each lexicon is associated with its own set of conceptual representations" (Swan, 2017, p. 13).

2. Theoretical background

2.1. What does it mean to know a word?

According to Singleton (1999, p. 9), words develop a privileged status in the understanding of what language is because "the awareness of words develops early in the normal course of language

acquisition – considerably earlier than awareness of syntax". But when it comes to the definition of a word, there is no simple explanation.

A large and growing body of literature has investigated the word *'word'* itself. Firstly, these arbitrary units, which are always seen as constituting in some sense a single lexical entity, can technically be called a *lexeme* or *word expression* if they refer to an abstract sense on one hand, and on the other hand a *word form* if they refer to its concrete representative (Singleton, 1999, p. 10). Secondly, he adds, if their semantic characteristics are taken into consideration, they can be divided to *content words* (*lexical words* – the ones that have substantial meaning even outside of the context) and *grammatical words* (*function words* – words which have no independent meaning).

As we can see, the definition of a word is relative: the criteria are diverse because it is difficult to embrace all the nuances of meaning that can be perceived within the form of a word as a concept – usually phonological, grammatical, semantic and orthographic perspectives of a word are the most prominent when taking into account the approaches to the definition of it, but they are not the only ones. Lakoff (1972) stated that

> the overall assumption is that there exists, somewhere, a basic meaning for each word, which individuals should strive to attain. We can label this the 'fixed meaning' assumption. There is, however, an alternative viewpoint, which argues that words cannot be assigned a firm meaning, and that 'Natural language concepts have vague boundaries and fuzzy edges'. (as cited in Aitchison, 1987, p. 39).

Though we agree with Aitchison when she says that "it may be difficult to specify a hard core of meaning at all, it may be impossible to tell where 'true meaning' ends, and encyclopaedic knowledge begins, or a single word may apply to a 'family' of items" (Aitchison, 1987, p. 49), we think that this distinction is not so important, because the encyclopaedic meaning entails aspects of the core meaning, without which it would be impossible to relate the word to the represented concept. The fact that people can relate some meaning to words in isolation gives ground to the statement that some form of meaning is attached to a word by societal convention that is not dependent on context (Schmitt, 2000, p. 27).

From the looks of it, our mental lexicon does not depend on the principles we apply to define a word within a language because the most important thing is the concept behind the word. As Ogden and Richards (1936) have described it in their *basic triangle*, "each lexical item is associated with a concept, and each concept is the physic representation of a referent in the 'real world'" (as cited in Singleton, 1999, p. 29). This theoretical frame, though incomplete at the time, gives us one of the first pieces of evidence indicating that links and connections among different pieces of information do exist in our brain, and that we process them on multiple levels. This stream of thought continued to develop, and *lexical field theory*, related to the Sausurrean tradition, emerged. It states that one could identify within the vocabulary of a language particular lexical areas, or as Ullmann (1962, p. 245) put it, "sections of vocabulary in which a particular sphere is divided up, classified and organized in such a way that each element helps to delimit its neighbours and is delimited by them" (as cited in Singleton, 1999, p. 31).

Furthermore, Lyons (1977) continued to elaborate on it by differentiating between *sense-relations*. He distinguished *paradigmatic* and *syntagmatic* links, i.e. *colligational* and *collocational* links based on members of different grammatical categories on one hand and synonymy, hyponymy and incompatibility based on members of the same grammatical category on the other hand (Singleton, 1999, p. 32). To better explain the sense-relations between words, *componential analysis* arose and with it the notion of *prototypical sense*, according to Rosch (1978) (as cited in Singleton, 1999, p. 35).

The concept of prototype can be comprised to the *'ideal exemplar'* (Aitchison, 1987, p. 55) – "an ideal set of characteristics against which candidates for inclusion in the same category can be matched" (Singleton, 1999, p. 35). The idea of a prototype included not only words, but also events and it was further developed within the *script theory*, which says that we process experience "via *scripts*, general prototypes or templates for particular types of activity", as stated by Schank & Abelson (1997) (as cited in Singleton, 1999, p. 35). Within these scripts, one could easily extract *frames* or "mental plans relating to specific domains of knowledge which assist us in dealing with relevant situations" (Singleton, 1999, p. 36). When we are speaking about our actions and reactions to some stimulus, like situations in which we are taking a test and cannot remember a required lexeme, for example. One will automatically remember the context in which the word occurs and how to use it. In that way, we are using our knowledge of the world, i.e. the things we know are

expected in a specific situation or context, and reactions that can possibly arise. The frame can therefore be seen as a kind of back-up information that is accessed only in situations where that is needed.

This overview deals mostly with two types of dichotomies: the discussion about the *core meaning* of a word and our experiential contribution which is called *encyclopaedic meaning* and the types of connections that exist among words that are a part of our mental lexicon.

We could now postulate that our minds are governed by the principle of importance or necessity of features, or "the mind may automatically flip up considerably more information than is necessary" or these mechanisms work together even (Aitchison, 1987, p. 62). Whatever the case be, humans deal with incoming information very successfully and are able to discern the information needed according to the context they are in. It can be unequivocally claimed that the activation of complete frames in the speaker's mind poses difficulties in determining the characteristics of individual prototypes because they interact with other elements in the scene, and "involve the optional use of a seemingly endless supply of back-up material from a person's memory" (Aitchison, 1987, p. 62).

As is suggested by Aitchison, there are three main problems related to specifying a prototype: "first, the diversity of the characteristics which make up the prototype; second, the difficulty of arranging them in order of priority, since some are clearly more important than others; third, the problem of knowing where to stop" (1987, p. 60). The biggest problem here is undoubtedly the third point mentioned by her: "the fact that a prototype often calls up a whole scene, in which numerous other words are involved, indicates one important fact: words cannot be dealt with in isolation" (1987, p. 62).

In short, from this we can conclude that *the word* is in constant flux – its meaning cannot be specifically underpinned due to its different characteristics which define its position among other words in our lexicon. Hence, the lexicon cannot and should not be perceived just as a mere list of words. Our lexicon is, due to paradigmatic and syntagmatic sense-relations, interconnected with grammar and therefore the distinction between them is difficult to maintain – to know a word means to know its morphological structure and syntactic behaviour which is usually acquired by learning about lexis. Therefore, we can say that all the words have fuzzy boundaries and are interconnected via different types of relations in the lexicon. Due to different cultural, linguistic,

or social backgrounds of learners, we can say that each mental lexicon depends on the community in which the language is being learned. The range of meanings that one has for a specific word depends mostly on their experience, i.e. encyclopaedic meaning, because there are components of meaning in each community that are shared and never-changing, i.e. they are perceived as the core meaning and are acquired through socialization.

2.2.Language and vocabulary

But how do we get to utter and interpret all those nuances of meaning within our immediate environment? How do we acquire vocabulary and, consequently, language? Although adult speakers are supposed to perceive language in a different way than children do, in some adults, language is reduced to mere sounds which do not convey any meaning as they babble on. But that is a normal evolutionary thing – all humans start by uttering incomprehensible strings of syllables. Syllables gradually change into meaningful units and at the end of their first year of life babies start producing meaningful combinations of words related to their most immediate environment and needs. To do so, children rely on chunks of content words and the word order of the language they are exposed to, the so-called *telegraphic sentences* because they do not use functional words and grammatical morphemes (Lightbown & Spada, 2006, p. 2). It has been observed that children usually tend to combine nouns and verbs in these early phases of life. Up to that point, they are just imitating their parents, but in no time, they start to combine the words on their own.

From that point on, the range of structures children are able to produce rapidly increases and through different developmental sequences their mastery of linguistic elements for expressing different ideas starts to mirror everything what has until then been present only in their cognitive understanding. One more facility that helps them develop the sensibility for linguistic structure is *the metalinguistic awareness* which develops immensely in the first years of formal education – it helps them "treat language as an object separate from the meaning it conveys" (Lightbown & Spada, 2006, p. 8). With metalinguistic awareness, language learners start to perceive that the language is intrinsically symbolic – based on combinations of words and meaning hidden behind them – these constructs differ in complexity and abstraction, they get more complex with age, i.e. experience, and the amount of input.

The most important thing that comes with different types of input and experience gained in language manipulation is the rapid growth of vocabulary (and subsequently constructing concepts)

through reading and communicating with a wider pool of interlocutors. It gives them the opportunity to form intake comprised of infrequent words and the ones that are used for specific purposes or in specific registers.

From the theoretical point of view, developmental changes we go through to become a fully competent language user can greatly differ depending on the school of thought standing behind it. The most prominent ones are the *behaviourist, innatist,* and *developmental perspective* (Lightbown & Spada, 2006, p. 10). However, we argue that there is no right way to describe the acquisition and that we should take into consideration every effort to describe such a complex development. Many things are still unsure, but we know for certain that "vocabulary knowledge enables language use, language use enables the increase of vocabulary knowledge, knowledge of the world enables the increase of vocabulary knowledge and language use and so on" (Nation & Waring, 1997, p. 6). From the psycholinguistic point of view, both nature and nurture play a role in development – language and therefore vocabulary acquisition is "influenced by the acquisition of other kinds of skill and knowledge, rather than as something that is different from and largely independent of the child's experience and cognitive development" (Lightbown & Spada, 2006, p. 19).

In the case of second language learners, this connection between metalinguistic awareness and experience (except for cognitive capabilities) becomes more plausible and clearer. Apparently, second language learners are different from the ones who know only one language in that much that they already have the experience of leaning a language. The linguistic and extralinguistic experience gives them the ability to hypothesize about how languages works, but it can also lead to incorrect conclusions (Lightbown & Spada, 2006, p. 30). The greatest difference between L2 learners and L1 learners is their cognitive maturity – problem solving skills and the ability to express their thoughts in a succinct way enables them to communicate more freely about language (Lightbown & Spada, 2006, p. 30). Thus, the mentioned abilities they have already perfected in their young life gives them the opportunity to take shortcuts and perfect a language at a faster pace than in their childhood.

As Vygotsky stated, the emphasis has to be put on social interactions – "people gain control over their mental processes as a consequence of internalizing what others say to them and what they say to others" (as cited in Lightbown & Spada, 2006, p. 47) – scaffolding provided by individuals within your language community increases your intake. During the time of acquisition, learners

develop their own *interlanguage*, a state described by Selinker, which displays "some characteristics influenced by previously learned languages, some characteristics of the second language, and some characteristics, such as the omission of function words and grammatical morphemes, that seem to be general and to occur in all or most interlanguage systems" (as cited in Lightbown & Spada 2006, p. 80). This interlanguage is both systemic and dynamic and eventually through the process of fossilization all bits of information find their places and the system starts functioning normally.

Thus, the process of fossilization is very important for vocabulary development in learners because our vocabulary (i.e. mental lexicon) works in a similar way, through salience. These meaningful encounters "range as high as sixteen times in some studies. Even more encounters may be needed before a learner can retrieve the word in fluent speech or automatically understand the meaning of the word when it occurs in a new context" (Lightbown & Spada, 2006, p. 98). Learners should also use all the cues related to a word – for example, experienced learners of L2 usually can make use of not only the frequency of a word, but can also employ their knowledge of other languages to work out the meaning of words which are borrowed or cognates. The best way of learning vocabulary within a language community is incidental learning. Every learner who wants to acquire a language should learn "new words (or deepen(ing) the knowledge of already known words) in context through extensive listening and reading" (Nation & Waring, 1997, p. 11). But to do so successfully, "we need a vocabulary of about 3,000 words which provides coverage of at least 95 per cent of a text before we can efficiently learn from context with unsimplified text" (Nation & Waring, 1997, p. 11). To illustrate the importance of communication with other interlocutors, i.e. the extralinguistic world, it suffices to say that "other sources of incidental learning include problem-solving group work activities" (Nation & Waring, 1997, p. 11). Due to this kind of vocabulary acquisition, research done by Ortega suggests that "it is typically found that learners know more words receptively than productively, particularly if they are infrequent or difficult words, and that this gap becomes smaller as proficiency develops" (2009, p. 88).

Generally, to become a successful language learner, it is not enough only to acquire the most frequent words, one has to work on expanding that knowledge which heavily relies on one's interests and needs after that initial stage which is greatly propelled by our motivation. Data shows that the estimated breadth of acquired vocabulary in an adult speaker of English, for example, is

20, 000 word families, whereas a child starting the first grade will have a vocabulary of around 4, 000 to 5, 000 word families (Nation & Waring 1997, p. 7). Ellis claims that, for L2 learners, a problem might arise already during the acquisition of the most frequent words because

> we must learn its syntactic properties. We must learn its place in lexical structure: its relations with other words. We must learn its semantic properties, its referential properties, and its roles in determining entailments (for example, the word 'give' is only properly understood when we know that it relates a giver, a gift, and a recipient). We must learn the conceptual underpinnings that determine its place in our entire conceptual system. Finally, we must learn the mapping of these I/O (input/output) specifications to the semantic and conceptual meanings. There is no single process of learning a word. (1997, p. 2).

If all these steps are done correctly, there still exists a possibility that L2 language learners will not know all the nuances of meaning added to a single word. It is important to note that at any given time, the vocabulary of a fairly proficient L2 learner will be smaller and more unstable than the one of a native speaker (Wolter, 2001, p. 47). The estimates for an L2 vocabulary range from 3, 000 new words in order to minimally follow conversations in the L2, and about 9, 000 new word families if they want to be able to read novels or newspapers in the L2 (Nation, 2012, p. 1).

We argue that the depth of human knowledge is a sum of information related to the salience of specific words in our environment, our social status, needs and education, speaking community and other languages we have experienced during our life. Some words can be well-known, some not at all and some to varying degrees. Some of them we can recognize when written, but cannot recall when we are communicating. To account for this, Soderman proposes the *Depth of Individual Knowledge Model*. This model takes into consideration both L1 and L2 and does not work along the lines of proficiency nor frequency per se, but on how well the speaker knows particular words (Wolter, 2001, p. 46). Therefore, he divides vocabulary on *core* and *peripheral* pools of words, with core being the highest frequency words (well-known ones) and concentric pools which contain words known to varying degrees (with the ones which are better known being closer to the core, and the ones less known being on the outskirts) (Wolter, 2001, p. 47).

2.3.The definition and organisation of the mental lexicon

Language is intrinsically symbolic (Ellis, 2010, p. 27). As we have already stated, our vocabulary, i.e. mental lexicon is not a word-list – words in our mind are interconnected and they cannot be fully described in isolation – a major part of their meaning is comprised in their relations to other words and the information acquired about them from the extralinguistic sphere. The words we are talking about are perceived as *concepts* in mental lexicon – they are built not only around the individual's linguistic experience with a specific lexeme, but also their physical, emotional, cognitive, and pragmatic experience which then results in specific associations that vary in strength and the span of interconnectedness with other words (Lowie, Verspoor, & Seton, 2008, p. 135). To elaborate, Aitchison has given us a comparison that works very well with the notion of mental lexicon:

> one might suggest that words are stitched together in one's mind like pieces on a patchwork quilt. The shape and size of the patches would differ from language to language, but within each language any particular patch could be defined with reference to those around it. But this simple idea will not work. Words do not cover the world smoothly, like a jigsaw with interlocking pieces. The whole situation is more like badly spread bread and butter, with the butter heaped up double in some places and leaving bare patches in others. Some words overlap almost completely, while elsewhere there are inexplicable gaps (1987, p. 63).

Due to the fact that there is no direct way to access the mental lexicon, we can only guess how it is organised. There have been some educated guesses about its structure, and two most popular viewpoints that have been considered are *the atomic globule viewpoint* and *the cobweb viewpoint*. The former claims that words are "built up from a common pool of 'meaning atoms', and that related words have atoms in common" (Aitchison, 1987, p. 64), whereas the latter claims that "words are recognized as related because of the links which speakers have built between them" (Aitchison, 1987, p. 64). If we were to apply these claims to our discussion about the definition of the word, we could say that the notion of word differs between these two viewpoints – on the one hand, it is seen as a core fragment of meaning that is built up by adding other bits and pieces containing that same core fragment (or in other words, they are tagged for meaning by a certain

core fragment), and on the other, as a whole entity which is capable of connecting with other entities depending on their sense relations.

To describe the liability of these viewpoints, we will use the words of Aitchison, who states that

> the atomic globule viewpoint – the suggestion that there is a universal stock of semantic components out of which all words are composed – ran into insuperable problems: no one has been able to specify what these atomic globules are, and they leave no trace in the processing of words. The arguments in favour of this viewpoint are based mainly on descriptive convenience and wishful thinking. (1987, p. 71)

Furthermore, concerning the cobweb theory, in which words are "linked together in a gigantic multi-dimensional cobweb, in which every item is attached to scores of others" (Aitchison, 1987, p. 72), she suggests that the connections, i.e. the closeness between words arise from the frequency of use. This claim has been further examined by means of word association experiments and general results concurred with the following statements: people always select items from the semantic field in which the original word is situated, they nearly always use the missing part of the pair (if the word is usually used in a strong collocation) and that adults predominantly respond with words from the same word class (Aitchison, 198, p. 73). Moreover, she reflects on types of relations between the words, giving support to the sense relation theory:

> We noted that words seem to be organized in semantic fields, and that, within these fields, there are two types of link which seem to be particularly strong: connections between co-ordinates and collocational links. Links between hyponyms and their superordinates are overall somewhat weaker. Some are more firmly established than others. Humans then use these firm connections in conjunction with their reasoning ability to make other, temporary links as they are needed. Connections between different topic areas may also be weak, and made on the spot by means of active matching and decision-making. (Aitchison, 1987, p. 85)

The atomic globule viewpoint, as has been shown, is in some way obsolete and does not provide any evidence for the claims it states, but the cobweb theory, which presents mental lexicon as a network of interconnected units, gives more reasons to support it. This description is close to *connectionism* – the approach which states that "different portions of information are processed independently of one another ('in parallel') on different levels ('distributed')" (Singleton, 1999, p. 121) and hence it is also dubbed *parallel distributed processing*.

It is motivated by the nervous system's reaction to different stimuli, i.e. the concept of *spreading/interactive activation* – "the idea that in language processing a multiplicity of nodes are excited by the arousal of a node to which they are connected" (Singleton, 1999, p. 25). It is important to emphasize that this point of view was explored earlier by numerous researchers, one of whom is also Levelt – in his model, speech is lexically driven: lexicon functions as a mediator between all the other aspects of processing a word: grammatical, phonological, and conceptual (Singleton, 1999, p. 108). In addition, connectionism also shares the assumption that "activation not only spreads outwards to more and more nodes, but also moves backwards and forwards between the activated nodes" (Singleton, 1999, p. 126). In other words, the most excited nodes would be the ones which have the strongest link with the target word, and others, not needed for the completion of the action, are inhibited.

In this sense, then, these relationships are not accidental – they reflect some type of underlying mental relationship in the mind. This network viewpoint provides all the information needed to proceed to the mental lexicon organisation principle. One of the research paradigms that explores the organisation of the mental lexicon involves the use of word associations. The assumption is that the reaction to the stimulus word will not be thought through, but given automatically, due to the fact that in controlled conditions time span provided for reaction is 5-7 seconds. The fastest reaction should, according to the spreading activation theory presented within connectionism, be the one with the strongest connection to the stimulus word in one's lexicon. As we cannot directly access one's mental lexicon, analysis of the relationship between the stimulus word and its reaction can give us certain clues about the organisation of the mental lexicon.

When it comes to mental lexicon research, a previous study conducted by van Hell and de Groot involved using word associations in order to find out the way in which bilinguals organize words in their memory. They suggest that there are differences in the processing of concrete and abstract

nouns, as well as cognate and noncognate nouns, which may signify that these words are represented differently within the memory of a single bilingual" (van Hell, de Groot, 1998, p. 194). When one is acquiring a cognate in their L2, they "simply map the to-be-learned L2 word onto the existing conceptual representation of its translation in the native language" (van Hell, de Groot, 1998, p. 194), whereas when learners are acquiring noncognates, "the dissimilarity in spelling and sound may prevent L2 learners from automatically mapping these L2 words onto the conceptual representation of their respective translations in L1" (van Hell, de Groot, 1998, p. 194). These claims indicate that cognates usually share both the representation and the store, whereas noncognates should build a new concept and therefore cannot share the store with cognates. Also, their analysis suggests that concrete nouns evoke higher proportion of equivalents (i.e. nouns) than abstract nouns (the same applies to verbs in their case) and cognates were more often translations than noncognates.

3. Word associations

3.1. Types of associations in a native language and the differences between adults' and children's responses

In his research, Schmitt points out that "although it is unlikely that associations will ever be as explainable as other 'rule-based' aspects of language, we do have a reasonable understanding of their behaviour after a century of research" (2000, p. 38). As it has been previously stated in this thesis by Aitchison, there already are certain established patterns when it comes to association responses.

Historically, word association tests have been devised in the 19th century. The first to use word pairs to measure vocabulary acquisition rate was Ebbinghaus, who did a self-experiment – he measured his retention of words and non-words by means of a paired-associates procedure in which he set a strong foundation for future study of L2 vocabulary acquisition. Galton, on the other hand, in 1879-1880 conducted a self-experiment in order to see how words are connected to one another in the mind by means of word association test. Shortly after, Cattell and Bryant in 1889 carried out the first large-scaled association study by collecting associations from about 500 people. At the turn of the century, new ideas sprouted – Kent and Rosanoff were the first to use associations as a tool in psychology – in 1910 they used word associations as a measuring tool for mentally ill people. Though the sanity of their participants is questionable, they yielded an

important finding in their research, which was later corroborated in further research: there is a certain amount of consistency in answers given by a particular group, which indicated that members have similar connections between words. The list of associations they compiled was for a long time a favourite, until Russel and Jenkins in 1954 produced association norms complied from their students.

Word associations tell us something about the way our mental dictionaries are organised. The data primarily suggests that the native speaker's mental dictionary is organised mainly on semantic lines, rather more like a thesaurus than a conventional dictionary. In the learners' case, however, this semantic organisation seems to be much less well-established. For example, L3 languages are sometimes seen as "a fuzzy set of all guest languages known by a speaker" (Filatova, 2010, p. 89), but we will try to refute these vague claims of hierarchical structure between *native languages* and *foreign languages* in our research, carried out with the help of the group of respondents with at least two foreign languages – their results will be taken together and analysed to gain insight into L2 and L3 concepts constructed in their mental lexicon to find out to which extent they have acquired the meaning of particular concepts and whether they overlap because "language tags are not firmly labeled" (Filatova, 2010, p. 93) in the presence of a third language. The learners do show some evidence of semantic organisation, but this is mainly dependent on translation between languages (Meara, 2009, p. 104). We therefore presume that the type of associations goes through established developmental stages which are connected with the knowledge the learner gets, i.e. one's proficiency.

From our perspective of an experienced learner of these three languages, we would nonetheless presume that syntagmatic associations will be the most frequent because of the way in which these languages function and how they are taught and learnt – Russian, just like Croatian, is a flective language. English, on the other hand, is an analytic language, and therefore associations could possibly work in another way.

In modern day research, associations are frequently analysed according to what category they belong to. The most important categories are *clang associations*, *syntagmatic association*s and *paradigmatic associations* (Schmitt, 2000, p. 39). To explain, in clang associations, the response is similar to the stimulus in form, but not semantically. When it comes to syntagmatic and paradigmatic associations, the word class of the stimulus word plays a role. In syntagmatic

associations, reactions have a sequential relationship to the stimulus word and usually have a differing word class; e.g. (to) phone-home, whereas paradigmatic associates would be the responses which usually have the same word class; e.g. scared-afraid. Syntagmatic relationships involve the contiguity of words in language, whereas paradigmatic are more semantic in nature – they represent sense relations (e.g. synonymy, hyponymy, superordinates, etc.). Experiments which involve word association tasks usually have two versions: participants are required to provide either *discrete*, or *continuous* associations (Dragićević, 2005, p. 56). The former means that the participants provide only the first word that comes to their mind, i.e. one associate, and the latter means that they are usually asked to provide as many words, i.e. multiple associates.

It is known that native speakers' responses to association tests vary from syntagmatic associates to paradigmatic associates as a person's proficiency increases. As a person's proficiency increases, on the other hand, there is a decrease in clang associates which often appear in children's responses (Schmitt, 2000, p. 40). Even though their lexical organisation changes over time, high proportion of clang associates in the early phases of learning indicates that word-form similarity may play a role in lexical organisation of L1 children, as it was emphasized by Schmitt. These are also the main differences between adults' and children's associations observed in a native language – only as they get mature and more cognitively developed, does the change called the *syntagmatic-paradigmatic shift* happen. This change in the type of response occurs at different times for different word classes – nouns are the first to shift, then adjectives and in the end the verbs whose change is more gradual (Schmitt, 2000, p. 40). This high level of systematicity in native responses is nowadays generalised and it is believed that all speakers of a particular language have their mental lexicons sorted out along similar lines.

3.2.Associations in a non-native language

This is, however, not entirely true in the case of L2 (and/or L3) learners. Schmitt states that

> although L2 learners typically have smaller vocabulary than native speakers, their association responses are much less regular and not often of the type that would be given by native speakers. This is partly because L2 responses often include clang associations. That presumably happens because the organisation of L2 learners' mental lexicons is

> usually less advanced. Second, L2 participants frequently misunderstand the stimulus words, leading to totally unrelated associations. Third, non-native speakers tend to produce more syntagmatic responses, like L1 children. Fourth, L2 responses are relatively unstable. (2000, p. 41).

These statements are, in general, a result of L1 research being applied to L2 acquisition research (Schmitt, 2000, p. 41) and should be handled with care in the second language acquisition context. He however adds that, matter that fact, there are evidence supporting the claim that L2 responses become more native-like with higher proficiency – mental lexicon of L2 learners also evolves in an incremental fashion, just like in L1 speakers. There is a connection not only between proficiency and the type of association produced, but also the number that can be produced – a greater number of responses indicates that the network is more developed because more words are connected to singular stimulus and it also suggests a greater level of organisation (Schmitt, 2000, p. 42).

From our perspective, it is natural that a native speaker should have wider and deeper knowledge of words than a non-native speaker, but we do not share the opinion with the citation given by Schmitt written above – these stances can be countered by recent research done on both L1 and L2 speakers by Soderman and Wolter. When it comes to stability, regularity and response types, Wolter argues that in L1 research on associations widely known lists with very frequent words and fairly predictable responses are usually used – e.g. Kent-Rosanoff. However, in the few cases in which L1 participants were presented with lists that contained words with low frequency in their L1, they responded with very wide range of associates, many of which have been categorized as childlike or non-native (Wolter, 2001, p. 42). We can claim that the degree of knowledge of the word does play a significant role in the type of response that is given (Soderman, 1993, p. 163). In a research carried out by Soderman, which included both frequent and infrequent words and had very advanced L2 learners and native speakers as participants, there were no significant discrepancies noted between them in the way they produced syntagmatic and paradigmatic responses – there was a stable balance between them when the stimuli were frequent (Soderman, 1993, p. 166). There was no obvious evidence of a very strong preference for paradigmatic dominance for frequent words and the amount of “unusual”, i.e. childlike responses was equal –

both groups produced clang associates when they were presented with infrequent words (Wolter, 2001, p. 45).

Due to the fact that language learning and vocabulary acquisition is a lifelong process, we hold that that the mental lexicon of all learners, and not only non-native foreign language learners, is unstable (Wolter, 2001, p. 47). Also, if we take into consideration the dynamic perspective, except for the inherent instability, representations are constantly changing due to internal restructuring in the lexical system (de Boot, Lowie, 2010, p. 120). It can also be said that the mental lexicon is a sum of all its parts – well-known words, moderately known words, and unknown words with all their interrelated connections – we cannot claim that there are some overarching principles adjusted according to language proficiency of a learner or word frequency. Although all previous research that tried to demonstrate this correlation has failed to prove significant relationship (Wolter, 2001, p. 46), it would be strange if these features had nothing to do with the organisation of the mental lexicon. On the other hand, we surely know that there are no learners who are alike. Therefore, when it comes to the breadth of learners' knowledge, we can only say that it is probably predominantly idiosyncratic. It depends on the knowledge of the word and how well it will be connected to other words (Wolter, 2001, p. 47).

It is plausible that when a new word is being acquired, the dominant connection we make to it is phonological; however, "the data suggest that as words become well-known and better integrated into the mental lexicon, the phonological connections lose their dominance" (Wolter, 2001, p. 60). This word, which has just been learnt is more likely to evoke childlike, i.e. clang responses in the early phase of integration and later on it will give syntagmatic or paradigmatic responses. This sheds new light on the claim that L2 mental lexicons are loosely structured. We cannot tell when this shift happens in L2 learners, but we know that it is not relatable to L1 children which go through it around the age of 7, nor can we say it happens at the same time for all words or types of words. Soderman claims that "it would be more accurate to connect this shift to the development of individual words in the lexicon as a whole" (1993, p. 163) – each learnt word in L2 is likely to be differently processed and mapped in its stages of development in the L2 mental lexicon.

Researchers were mainly interested in the mean proportion of paradigmatic responses, without addressing potentially important differences in response patterns for syntagmatic responses (Wolter, 2001, p. 62). When it comes to the differences between L1 and L2 syntagmatic-

paradigmatic change, we agree with Wolter when he says that "the L2 mental lexicon is not less structured than the L1 mental lexicon, it is simply at an earlier stage of development in the sense that for many learners, a fewer number of words are well-known" (2001, p. 60). Because of such structure, L2 mental lexicon was seen as a deviant and/or underdeveloped form of the L1 mental lexicon (Wolter, 2001, p. 61). However, when we compare the proficiency and the way learners are able to effectively use their productive vocabulary when speaking English (as their L2 or L3), we cannot say that the structure of L2 mental lexicon is necessarily functionally inferior to the L1 mental lexicon, but it is structurally different (Wolter, 2001, p. 61). The pure fact that in our native languages we prefer to use paradigmatic responses cannot challenge our ability to function and think in foreign languages because "the knowledge of a bilingual can never be the same as that of a monolingual" (Verspoor, 2008, p. 264).

3.3.What bilingual associations can tell us

To continue, we would like to note that the similarities between L1 and L2 mental lexicon, no matter how small they seem, are highly likely to be true because L2 knowledge and subsequently L2 mental lexicon also are in some degree mediated by L1 mental lexicon. L2 learners, who already have some knowledge and experience in learning languages other than their mother tongue, will have the abilities and strategies enabling them to acquire that language faster. One thing that happens is that they take the already existing L1 concept as their starting point in building their L2 knowledge and fill it with new meaning, which means that at the initial stage of acquisition L1 and L2 lexicons overlap, e.g. cognates make strong connections in typologically similar languages phonologically and conceptually, but in later stages the learner will make assumptions about similarities with greater caution due to the metaphorical use of words (Verspoor, 2008, p. 264). On the other hand, more experienced language learners will be able to recognize the limits of translation equivalence when they reach the threshold – they are able to sense that "idiomatic use of mother-tongue words are less likely than others to carry over into the second language" (Swan, 2017, p. 8).

Even though earlier research indicated that bilinguals share a common conceptual store, recent work suggests a more complex situation – concrete nouns are more likely to have shared concepts than abstract nouns. Moreover, proficiency level, the language distance and the nature of experimental task play a part in tweaking the results (Swan, 2017, p. 13).

If we take the *chaos theory* as our starting point, which proposes a certain fuzziness in meaning construction, then we are automatically accepting cognitive linguistics' view of meaning, which says that "different languages are part of one interactive system and that much of the retrieval is related to activation" (Verspoor, 2008, p. 264). In other words, that would mean that our lexicons are interrelated and that we base our production in languages on activation speed, ease of access and the strength of connections between words (e.g. collocations, associations) (Verspoor, 2008, p. 263). Also, in a bilingual lexicon, there is an additional feature which eases our access to the right word – *language tagging* – a "source of information linked to the entry node referring to the language a lexical item is associated with" (Verspoor, 2008, p. 264).

In the preceding research, two out of three languages will be from the same language family, which means that the conceptual overlap will be high, at least in theory. We are discussing Croatian L1 and Russian L3 with English L2 students. In situations when there is "a great degree of conceptual overlap between L1 and L2 word, it may be extra difficult to become aware of the subtle difference between them [words]" (Verspoor, 2008, p. 264). One strong argument which stands in favour of this claim is the fact that our lexicon interrelations are in constant flux and they do not have clearly outlined boundaries – "an activation of a word may activate any type of association (social, cultural, linguistic (collocational), pragmatic, psychological) (Verspoor, 2008, p. 265) and that current activation can therefore influence other existing concepts that change according to given contexts. The context of use does not arise only in this situation, but it also changes the conceptualization overall. Langacker believes that "knowledge and associations that are extrinsic to the concept denoted by the word per se" (as cited in Verspoor, 2008, p. 266) depend on our experience and encyclopaedic knowledge. On the other hand, to make conceptual categorization easier, we usually take the concept based on real-world experience and idealize it in order to make it fit into boxes of our lexicon (Verspoor, 2008, p. 266). That is, they take the gist of a concept and apply different layers of meaning and associations to it depending on our surroundings.

Many (advanced) L2 language learners struggle to produce associations which are native-like, even though they have the same preferences for word choices. As Verspoor claims, this appears to happen because L1 speakers will have been exposed to certain linguistic structures more often than L2 speakers and therefore, they are more salient. If words and concepts are a part of one unitary system, it is not surprising that associations to a similar L1 word may influence associations for an

L2 word, on many occasions word associations are not purely linguistic, but are experiential in nature (Verspoor, 2008, p. 270), which would mean that the culture and community we live in plays a role in shaping our mental lexicon – a language learner will associate to the same concept differently than a native speaker because his environment will influence the concept.

Another highly important perspective included in acquisition of vocabulary is the culture we live in and its relatedness, i.e. closeness to foreign languages we speak. The role and impact of the culture cannot be underestimated because we all live within an imagined community which shapes us and the way we think. Every culture has a special way in which communication and consciousness of native speakers work, as well as their conceptualization of the world around them. The question of meaning interchangeability and (in)comprehension across multiple cultures has gained on importance in the modern day thanks to globalisation and interconnectedness of nations. Incomprehension of the "cultural barrier" (Maslova[1][2], 2001, p. 31) usually arises in situations in which our thoughts cannot be directly transferred into other languages because every language and culture uses specific signs and symbols to convey meaning (N.V. Ufimtseva, 2009, p. 101). To avoid incomprehension, one should take into consideration not only language proficiency, but also other spheres of language knowledge related to norms of linguistic etiquette, cultural uniqueness and cultural differences. Language works as a vessel – it takes a man into the specificity of a culture and it gives a fixed worldview (Maslova, 2001, p. 27). Moreover, language material is the most important information available about the world and the man in it – language grows from culture and reflects the culture (Maslova, 2001, p. 28). It codes the culture-specific meanings (Maslova, 2001, p. 32) and hides them behind the universal meaning of words – one can become a member of a different imagined community only when one deciphers and acquires culture-specific codes embedded in language because the language makes a speaker act in accordance to these "unspoken rules".

4. Linguistic culturology

The mediation between culture and language has become prominent because "the linguistic code cannot be understood as an isolated phenomenon outside of its social context. Nor can one

[1] Russian authors' names have been transliterated into the Latin script and as such can be found in the reference list.

[2] All translations from Russian into Croatian have been made by the author of this master's thesis.

understand how learning takes place without the support of the social context." (Gass & Selinker, 2008, p. 281). The discipline that synthetizes the interconnectedness of linguistic and extralinguistic phenomena is called *linguistic culturology*. The multidisciplinarity of linguistic culturology incudes analytical approaches, operations and procedures used in analysis of interrelatedness between language and culture already known in culturology and linguistics, sociolinguistics, ethnolinguistics and cultural anthropology (Maslova, 2001, p. 34) and its methods will be used in the present research.

To begin with, linguistic culturology arose as an independent and complex scientific discipline at the end of the 20th century on the meeting points of linguistics and culturology. It is a study of "national culture features which are reflected and inscribed in language" (Maslova, 2001, p. 28). It is directly related to notions of the linguistic picture of the world, linguistic personality, linguistic consciousness, mentality, etc. and therefore it gives us the opportunity to spot the differences and similarities across cultures and to shed new light on the role of language typology and language within culture – i.e. the nature of the word is directly related to the linguistic personality in the language, because linguistic sign embodies all cultural wealth and knowledge accumulated by a specific language community in the process of its development. Our personal influence changes the culture and the language and in that sense the linguistic picture of the world (Maslova, 2001, p. 65), as well as the way we are perceived by other members of our nation or other nations.

The main goal of linguistic culturology according to Maslova is exploring cultural semantics of language signs which are formed within interrelations between language and culture because language signs function as "language of the culture" – the language reflects cultural mentality of speakers who use it (2001, p. 30). The tasks of linguistic culturology are to see "1) how culture participates in formation of linguistic concepts, 2) in which part of the linguistic sign are "cultural nuances" stored, 3) are these nuances perceived by the speaker and receiver of a speech act and how do "cultural nuances" influence their conversational strategies, 4) does the cultural-linguistic competence used to convey "cultural nuances" exist in reality (Maslova, 2001, p. 31).

Linguistic culturology studies language as a cultural phenomenon (Maslova, 2001, p. 8). The object of exploration in linguistic culturology is a *linguocultureme ("лингвокультурема"),* which in fact belongs to a group of "linguistic units which have attained a symbolic, metaphorical meaning in culture and which generalize results of human consciousness – archetypical and

prototypical, found in myths, legends, rituals, customs, folklore and religious discourse, poetic and prosaic literature texts, idioms and metaphors, symbols and things" (Maslova, 2001, p. 36) – in short, we can say that these concepts are *language-specific words*. This is important because different nations use different instruments for conceptualisation – they all form different linguistic pictures of the world which are in reality a basis for national cultures (Maslova, 2001, p. 38). To gain a full comprehension of the units which are generally used and explored in linguistic culturology, we will list and explain the ones that will be used throughout this paper.

The term *(cultural) concept ("культурный концепт")* (Maslova, 2001, p. 48) is used to denote any "abstract notion" and they usually appear within a *cultural space* ("*культурное пространство*") (Maslova, 2001, p. 48), i.e. "a form of existence of culture in consciousness of speakers in a form of a cognitive space". The word 'speaker' is replaced by the term *linguistic personality ("языковая личность"*), because as such, "one exists in the realm of culture consequently materialised in language and in the form of common consciousness", according to Karaulov (as cited in Maslova, 2001, p. 183). On different levels one embodies the individual/personal component, the culturological component and the component of worldview and value system (Maslova, 2001, p. 119). The speaker is perceived on a cognitive level – he/she "actualizes and identifies relevant knowledge and perceptions which are related to a community and which are used to form both collective and individual cognitive space" (Maslova, 2001, p. 118). The cognitive space of a linguistic personality is filled with (cultural) concepts which are considered to be *cultural fund ("культурный фонд")* (Maslova, 2001, p. 49) or "an amass of national and global culture knowledge known to an average representative of a culture". This amass of knowledge is denoted as a *linguistic picture of the world* (Maslova, 2001, p. 64) and each culture shapes it differently. That is a system of *images ("образ")* (Maslova, 2001, p. 43) through which one sees the surrounding world – it is a conceptual system reflected as a language image made out of universal, national and individual consciousness and it is perpetually changed by its users.

One language equals one specific linguistic picture of the world since it is formed as an answer to practical needs of a community and thus it largely uses codes and images known only to members of that community (Maslova, 2001, p. 71). Images are the most important linguistic features which incorporate basic information about the relation of the word with the culture and they are usually

perceived as mental pictures (Maslova, 2001, p. 44). The best example would be culture-specific elements or values which usually imply the uniqueness of a culture – when translated or explained in a different culture, they usually cause a break in communication or semantic gaps, because the receiver of the message has (probably) never experienced that particular element (Maslova, 2001, p. 111). These fragments of a *linguistic picture of the world ("языковая картина мира",)* which incorporate representations about objects or situations, are called *mental stereotypes ("ментальные стереотипы")* (Maslova, 2001, p. 109). They are formed in cognitive processes and they perform numerous cognitive functions, e.g. schematization, simplification, formation and preservation of group ideology (Maslova, 2001, p. 110). Consequently, stereotypes and (cultural) concepts form a *mindset ("ментальность")* (Maslova, 2001, p. 49), i.e. "a worldview that incorporates national, spiritual and intellectual features of a culture". A concept closely related to mindset, but which still has to be differentiated is *mentality ("менталитет")* – "a category that reflects internal organisation and differentiation of mindset, composure of the mind and soul, i.e. a deep structure of consciousness that depends on sociocultural, linguistic, geographical and other factors" (Maslova, 2001, p. 49).

Maslova further claims that, as a result of experiencing different cultures, we develop our linguistic picture of the world and a certain mentality (2001, p. 48). Also, we gain our membership in a culture through the acquisition of elemental kernel of cultural knowledge. One of the most important processes of language and culture acquisition is *socialization* or "growing into a culture" (Krasnyh, 2017, p. 184) – involvement in particular social relations and active linguistic practice which leads to acquisition of social psychology of a community (Maslova, 2001, p. 121). Only once the culture translation and interiorization of the sign system has been completed, one becomes a linguistic personality with its own consciousness and linguistic picture of the world (Krasnyh, 2017, p. 186). Socialization is most commonly achieved by language-use to depict and describe the situations – one becomes a linguistic personality and a member of community through communication, by taking in culture of a given community through language of that community, by acquiring the linguistic culturology of that specific community (Krasnyh, 2017, p. 189). Linguistic personality is in that sense an object of language, culture, linguistic culture and communication. Notwithstanding that, linguistic personality, which is included in communication non-stop, is also the subject of language, culture, linguistic culture and communication (Krasnyh, 2017, p. 190). Culture makes socialization possible for individuals and it forms all necessary

prerequisites for later individualization (Maslova, 2001, p. 16). That means that one, as a representative of their linguistic culture and mother tongue makes decisions for the "human factor" in this circle. When more individuals of the same linguistic culture get involved in communication, they form an *imagined community ("сообщество")* (Krasnyh, 2017, p. 190). In this communication the imagined community makes an impact on other members of the community, transforms, and preserves its values.

Each individual is a member of many different communities, but the most important one is the national-linguistic-cultural community (Krasnyh, 2017, p. 195), which is governed by the rules of one linguistic cultural community.

4.1. Language and culture

By now, the words culture and language have been encountered numerous times in the same phrase, and as it seems, they are connected in vital ways and could not exist one without the other (Krasnyh, 2017, p. 196). Culture has a "communicative and symbolic nature and without mutual comprehension of signs and meanings, communication would not be possible" (Krasnyh, 2017, p. 196). There are many definitions of culture and no one sees it the same way because it is a subjective notion inscribed into everything that we as linguistic personalities do and think. Therefore, we could define it as "everything that has been made by us, everything that is steadily made by humans and in humans, that what is constant and what is changeable, that what is intangible and at the same time reproduced, that what lies in the core of (cultural) identification and self-identification of an individual" (Krasnyh, 2017, p. 211). Even though culture is perceived as "a whole, it has individuality and general idea and style" (Maslova, 2001, p. 24), it would not exist without language. "Language does not only name everything there is in culture, it does not just materialize it, it forms culture, fills it and develops in it" (Maslova, 2001, p. 25).

Culture and language are both perceived as semiotic systems, which means that they both 1) are forms of consciousness – they reflect worldview, 2) exist in dialogue, 3) have individual as their subject, 4) are guided by norms, 5) historicism, 6) antonymy between dynamic and static point of view (Maslova, 2001, p. 60). Language gives us the opportunity to describe collective stereotypes and provides us with tools to interpret the world objectively by analysing our consciousness (Maslova, 2001, p. 72). By analysing language, we analyse culture, and in culture we have embedded not only universal shared meaning, but also meaning specific for our language

community and nation. It helps us gain insight into the hidden sphere of our own mentality (Maslova, 2001, p. 113) because cultural categories are divided subconsciously. Cultural categories, which shape our linguistic picture of the world, usually mirror the uniqueness of the value system related to the given culture (Maslova, 2001, p. 117). Some of the categories present in Slavic languages are *space, time, fate, law, wealth, work, consciousness, death,* etc. These categories are shaped by national value systems, which means that not all nations will have all these categories, but might add some other. The way a specific nation sees the world may change over generations, but there will always exist structural elements of *ethnical subconsciousness ("этническое бесознательное")* which are most prominent when it comes to the way in which that nation sees the world (N. V. Ufimtseva, 2004, p.6).

Many researchers today explore mechanisms of categorisation and conceptualisation because without the knowledge of national cultural concepts, a fully comprehensible communication is not possible.

4.2.Associative and semantic fields in linguistic culturology

Humboldt said that the way we see the world depends on languages we think in. This sentence summarizes everything previously said – language is the unique tool that gives us insight into human consciousness because there is no direct way to access it. Also, we have said that within every language, culture and community there is a unique way of conceptualisation of the world knowledge. Therefore, each linguistic picture of the world is an expression of one's ability to process reality within linguistic culturology. Each linguistic picture of the world gets to be materialised by a linguistic personality who chooses the way of categorization in relation to himself/herself (Maslova, 2001, p. 7).

The emphasis is put on the connotations that words evoke in speakers, i.e. linguistic personalities. Interpretations of signifiers usually show significant differences in linguistic pictures of the world and through these interpretations one can establish what national and cultural peculiarities arise within a cultural space (Maslova, 2001, p. 56). According to Tarasov, associations as an experimental method give us the chance to extract unconscious traces of culture through language (as cited in Maslova, 2001, p. 54) and see how universal they are among members of one language community. The signified gets to be re-interpreted by different members of the same community and it changes meaning according to the contextual use (Maslova, 2001, p. 45) forming a layer of

stereotypical cultural information. When taken as a whole, answers given by different linguistic personalities within the same language community produce semantic fields related to certain language-specific units to form conclusions about the interrelatedness of language and culture. So, to research linguistic consciousness using associative experiments means to simplify the process of forming linguistic picture of the world of a nation (Ufimtseva, 2003, p. 103) and associative thesaurus can hence be seen as a model of human linguistic consciousness. To research languages other than our mother tongue means to see how our consciousness perceives material items (signifiers) of other languages and their mental rendering (Ufimtseva, 2003, p. 104) because, as we have already emphasised, language comprises collective stereotypes produced by speakers and reproduces their (sub)consciousness in an objective way making it then available for inspection (Maslova, 2001, p. 114).

Language, which is not only a cultural code of a nation, but also a mean of communication and perception, materializes the conceptual sphere of a language (Maslova, 2001, p. 3) and it is in all rights considered to be the most important part of who humans are.

In linguistic culturology, this fact has been heavily used in experiments related to mental lexicon and culture-specific elements. The most popular method of inquiry are associations. And why would associations be used if they cannot give us the whole picture? Due to the fact that specific linguistic pictures of the world form specific semantic fields of culture-specific units, it is important to clarify how the process of conceptualisation function in between cultures and language systems (N.V. Ufimtseva, 2008, p. 18) – how meaning is attached to different signifiers across different languages in our mind and how cultural ideals (Maslova, 2001, p. 50) change in representation. Associative fields that arise from associations do not only represent the verbal mind of a speaker, but also the ethnicity of a speaker, who is perceived as an "average" conveyer of a culture (N.V. Ufimtseva, 2003, p. 104).

Even though it has not been devised by Russian linguists, *the theory of semantic fields* has, just like linguistic culturology, been perfected in Russian linguistic tradition and therefore, we have decided to render it within that same tradition. In order to define a semantic field, it is important to emphasize that "words of any language connected to other words by notional and lexical-grammatical relations form a whole system" (A.A. Ufimtseva, 1962, p. 131). in the Russian linguistic tradition. Due to numerous types of relations among words, it is not unexpected to

encounter multiple groups and systems of categorization which were inspected in linguistics through time. Nonetheless, we are interested in one in particular – *semantic field* (sometimes dubbed *notional field*) which represents abstract, isolated notional spheres that include social, political, behavioural and spiritual life of the speakers within their own consciousness. It is hence ideal for interpretations of national specificity and comparisons between different languages and periods of development of a language (A.A. Ufimtseva, 1962, p. 136). A semantic field is a hierarchical cluster of linguistic units which includes different word classes, collocations, idioms, as well as expressive and emotional layers of meaning (A.A. Ufimtseva, 1962, p. 135); also members within fields encompass syntagmatic, paradigmatic and associative-derivational relations which depict field's representation (Novikov, 2011, p. 8). Semantic fields rest upon lexical-semantic word-groups which include free semantic relations between words (A.A. Ufimtseva, 1962, p. 137). Just like lexical-semantic word-groups, semantic fields do not have clearly designated borderlines and some members of semantic fields can simultaneously be parts of different semantic fields (A.A. Ufimtseva, 1962, p. 140) or vary in their stability and distribution within the language system (A.A. Ufimtseva, 1962, p. 141). When it comes to stability we can say that it is in proportional relation to frequency of responses – if there is a large frequency of one dominant response and small number of different responses and/or idiosyncratic responses, the field is homogenous and stable in the associative system, but if there are a lot of different responses, idiosyncratic responses and omissions, the semantic field is unstable and reasons for that have to be deduced (Dragićević, 2010, p. 46).

As it was mentioned, the semantic field theory was elaborated in Russian linguistic tradition, which automatically means that there have been various types of semantic fields defined, but the organisation is always done along the same lines – semantic fields constitute of two to three parts: *kenrel ("ядро"), centre ("центр")* and *periphery ("периферия")* and they can interact or overlap (Jolamanova, 2009, p. 150). The terminology differs from linguist to linguist, but the terms describe the same concepts usually. In this thesis, we have decided to use terminology devised explained by L.A. Novikov. If we were to depict a semantic field, it would look like a sphere with concentric circles, an onion even, if you will. According to Novikov's explanation, all members of a semantic field usually gather around the central sphere – a unit that represents the general meaning of the semantic field and it is therefore named the *kernel ("ядро")* (Novikov, 2011, p. 9).

The concentric circles around the kernel are devised in such a way that the lexemes create layers around the sphere because not all of them are at the same distance from the kernel, i.e. not connected to the central term with direct connections (associations). The distance is determined depending on the semantic closeness to the kernel and the concentric circles just explain the arrangement in relation to that semantic closeness to the kernel. The circle closest to the *kernel*, i.e. the concept at large, includes lexemes that are closely related to the kernel – they include invariable characteristics of an object, as well as obligatory characteristics (the ones without which the kernel would change in meaning or functionality) (Sternin, 1985, p. 64) and they are called the *centre*. The outer circle includes lexemes that are furthest from the kernel and therefore they are called *periphery*. Peripheral lexemes are the ones which have an indirect connection to the kernel, miss one or both prerequisites to be included into the centre (Sternin, 1985, p. 64), are semantically non-related or opposite, negative lexemes (Sternin, 1985, p. 65) and usually have a more complex, stylistically marked or context-dependent meaning as well as the tendency to interrelate to other semantic fields (Novikov, 2011, p. 9).

Though this structure is verified and used to classify responds, it is important, in our opinion, to emphasize that there is no strict borderline between the centre and the periphery (Novikov, 2011, p. 9) because the language system is in constant flux and the meaning of concepts depends not only on language knowledge, but also on our experience and world knowledge. For example, to illustrate this model, Sternin (1985, p. 65) gives an example from Russian: the kernel is the concept *возраст (‘age’)*, the centre is made of lexemes *ребенок (‘child’), старик (‘old man’), юноша (‘young man’), младенец (‘new-born’)* and periphery includes lexemes *солдат (‘soldier’), студент (‘student’), школьник (‘pupil’), пенсионер (‘pensioner’)* (which miss only one characteristic), *учитель (‘teacher’), инженер (‘engineer’), жена (‘woman’), переводчик (‘translator’), начальник (‘superintendent’)* (which are more context-dependent).

This classification will help us with clarify the construction of concepts in analysis related to semantic and associative fields, as well as linguistic culturology further on. This classification, as any other, is arbitrary and postulated from the researcher’s perspective, but we do not think that it is possible to evaluate language and culture objectively. Despite that, we can try to classify it as closely as possible. Since this classification is fairly vague and imprecise for our use, we will further explain it in the analysis of associative and semantic fields of our stimuli.

Further on, for each of our stimuli a comment based on linguistic culturology will be added. The analysis of concepts from this perspective depends not only on the analysis of the semantic level, but also the conceptual level since it modifies the straightforward meaning (Barčot, 2017, p. 65). It is expected that the comment reconstructs information conveyed in speech or perceived unconsciously – this is done mostly by introspection (Barčot, 2017, p. 64) and by following one's own analytical competences related to culture and language. The comment will consist of basic response characteristics and analysis of underlying meanings related to linguistic culturology. When concepts are analysed within their linguistic reality and situation, "the culture-based connotation is important because it enriches linguistic semantics", as Kovšova stated (2012, p. 39) (as cited in Barčot, 2017, p. 63). As any other method, this analysis also has its advantages and disadvantages. We are aware that some researchers analyse more than there is to data and, that descriptive analysis as this one at hand can be subjective and not precise enough, but withstanding these disadvantages, we think that our findings do show implications regarding the way in which concepts are connected between languages and how second language learners associate, in spite of the sample size.

5. The study

5.1. Aim and research questions

This study seeks to obtain data which will help address the way language learners associate to words with different semantic and cultural characteristics in their mother tongue and two target foreign languages – English (L2) and Russian (L3). Recent evidence implies that "different languages may have different preferred techniques for word-storage and handling" (Swan, 2017, p. 13). Central to this entire thesis is the representation of concepts in mental lexicon – we set out to reflect on mental processing of a multilingual and the potential interrelatedness of concepts.

Will we be able to tell how semantic and associative fields are formed around a stimulus word? Does the proficiency of a learner impact the preferred association response type, and what does that tell us about the structure of the learner's lexicon? Due to the fact that different languages have different conceptual representations within their specific cultural funds, we are interested to see to what extent words, which are believed to have shared etymological root or lexicographic or semantic similarity (Priss & Old, 2007, p. 1) overlap in conceptualization due to typological

similarity of Croatian and Russian, which are both Slavic languages with shared traditions, alongside etymology and mythology. How will these conceptualizations differ from the English ones – how culturally dependent is our mental lexicon? Do we assimilate characteristics of "foreign words which conform more or less to the phonetic and orthographic patterns of the mother tongue" (Swan,2017, p. 6) into our mental lexicon easily?

5.2.Sample

To conduct the present research, we have gathered a sample which consisted of 50 students. The criteria for selecting the participants were as follows: they had to be doing a joint degree in both English and Russian Languages and Literature, attending the Faculty of Humanities and Sciences in Zagreb and the corresponding departments at the University of Zadar. Apart from that, they had to be students of the 3rd, 4th and 5th year. All participants were native speakers of Croatian.

As presented in Table 1, the majority of participants were students of the 5th year, namely 24 of them (48%). Additionally, the questionnaires have been completed by 16 students (32%) of the 3rd year and 10 students (20%) of the 4th year. Their age ranged from 20 to 25.

Table 1. Year of study.

YEAR OF STUDY	
	percentage
THIRD	32.0
FOURTH	20.0
FIFTH	**48.0**

Furthermore, as it can be seen in Table 2, the research has been completed by 10 male and 40 female participants which fairly truthfully represents the Faculty of Humanities and Social Sciences with respect to gender ratios.

Table 2. Distribution of participants by gender.

GENDER	
	percentage
MALE	20.0
FEMALE	**80.0**

As participants were all learning English as their L2 and Russian as their L3, results provided in Table 3, concerning the duration of language acquisition, were in accordance with our expectations. A significant majority, 14 participants, i.e. 28% have been learning English for 15 years, with 8 (16%) of them studying for 16 years and 7 (14%) of them studying for 14 years. As for Russian, 60% of participants have been equally distributed between 3 and 5 years of acquisition, which means 15 each. Following that, 12 (24%) participants have been learning Russia for 4 years, with only 8 (16%) participants with 6 or more years of instructions in Russian language.

On average, participants have been learning English for 15,5 years and Russian for 4 years, as shown in Table 4. This implies that the majority of participants have started their acquisition of English when they entered formal primary education, at age 6, 7 or 8, and that they embarked on Russian only once they enrolled their undergraduate studies. This was anticipated because the Russian language as a foreign language has only recently started gaining momentum in the school system after a long pause, i.e. after Yugoslavia ceased to exist.

Table 3. The duration of learning English and Russian .

THE DURATION OF LEARNING ENGLISH		**THE DURATION OF LEARNING RUSSIAN**	
years	percentage	years	percentage
10.00	2.0	**3.00**	**30.0**
12.00	2.0	4.00	24.0
13.00	4.0	**5.00**	**30.0**
14.00	14.0	6.00	10.0
15.00	**28.0**	7.00	4.0
16.00	16.0	8.00	2.0
17.00	10.0		
18.00	6.0		
19.00	8.0		
20.00	8.0		
24.00	2.0		

Table 4. The average duration of learning Russian and English.

THE AVERAGE DURATION OF LEARNING RUSSIAN AND ENGLISH		
	RUSSIAN	ENGLISH
participants	50	50
AVERAGE DURATION (years)	4.0000	15.5000

As we are already speaking of foreign languages, it was unexpected to learn that 16 (32%) participants have not acquired any additional foreign languages, as depicted in Table 5. Nevertheless, among listed foreign languages, German was the most popular (11 participants, 22%), with Italian closely following (9 participants, 18%). Only 10 (20%) participants knew 2 more additional foreign languages except for English and Russian and only 3 (6%) participants have acquired 3 additional foreign languages.

Table 5. Additional foreign languages

ADDITIONAL FOREIGN LANGUAGES	
	percentage
NONE	**32.0**
GERMAN	**22.0**
ITALIAN	18.0
SPANISH	2.0
GERMAN + ITALIAN	6.0
GERMAN + CZECH	4.0
GERMAN + SPANISH	2.0
GERMAN + FRENCH	2.0
GERMAN + MACEDONIAN	2.0
FRENCH + CHINESE	2.0
ITALIAN + SPANISH	2.0
GERMAN + LATIN + SPANISH	**2.0**
GERMAN + ITALIAN + SPANISH	**4.0**

The next section of the questionnaire required participants to provide self-assessment of their language proficiency – a Likert scale comprised of CEFR levels for both English and Russian estimation was provided, and results are given in Table 6. It was not unexpected to see that their English proficiency was higher than Russian, with 35 participants claiming they have obtained C1

level and 15 participants having C2 level of knowledge in English, which is overall a very high percentage of near-native speakers. They were more realistic when they rated their knowledge of Russian: not only did no one claim they had C2 level knowledge, but they were also careful with labelling themselves as C1 in Russian proficiency – only 2 participants claimed that. The majority fell into B2 and B1 category, with B2 accumulating to 28 participants and 19 participants claiming to be B1 level. Also, it is important to mention that there was 1 participant who claimed that his/her knowledge does not succeed A2 level.

Table 6. Self-assessed proficiency in English and Russian

English proficiency (CEFR)		
	frequency	percentage
C1	**35**	**70.0**
C2	15	30.0

Russian proficiency (CEFR)		
	frequency	percentage
A2	1	2.0
B1	19	38.0
B2	**28**	**56.0**
C1	2	4.0

The data in Table 7 was used to verify the claims made by participants in the previous section regarding their proficiency – participants were asked to put down their average mark they obtained in their *Language Practice Courses*. Values assigned to English, as well as to Russian, were in accordance with average marks, with English marks being lower than Russian overall. In both languages, marks 3 and 4 (equivalent to C and B) were the most frequent, but mark 5 (A) is doubled in Russian – 5 (10%) participants obtained average mark 5 in Russian, and only 2 (6%) participants obtained average mark 5 (A) in English, which shows reciprocal value to participants' proficiency, but one of the reasons could be the fact that these courses are not equally demanding – Russian is taught from basics, whereas, to enrol English, one should already have obtained a B2 level of proficiency[3]. The average mark obtained by participants in the English Language Practice Course was 3,42, and in the Russian Language Practice Course it was 3,62, i.e. it was mark 3 (C) for English overall and mark 4 (B) for Russian overall. According to these findings, we can see that self-image and self-awareness of students usually provide better image than formal education evaluation.

[3] According to ZEROJ, pupils who pass level A of their English Matura exam with an A, posses B2 CEFR level of proficiency in English.

Table 7. The participants' Language Practice Course mark

Language Practice Coruse Mark					
	NUMBER OF PARTICIPANTS	MINIMUM MARK	MAXIMUM MARK	**Mean**	Std. Deviation
ENGLISH	50	2.00	5.00	**3.4200**	.70247
RUSSIAN	50	2.00	5.00	**3.6200**	.75295

English Language Practice Course mark		**Russian Language Practice Course mark**	
	percentage		percentage
2.00	8.0	2.00	6.0
3.00	**46.0**	3.00	36.0
4.00	42.0	**4.00**	**48.0**
5.00	4.0	5.00	10.0

5.3. Research procedure

The research was conducted over the course of three weeks, in three rounds. We considered that the pause was necessary to get optimal results and avoid potential interference and translation due to the fact that the stimuli were the same in all three languages. The instrument consisted of four parts, all of which needed to be completed in order to evaluate the answers proposed by a participant – a language biography of a participant and three word associations tests adapted to the languages which were included in this research – *Associations questionnaire* in Croatian, English and Russian[4]. The word associations test consisted of 15 stimuli, randomly listed in each test. All participants were asked to choose a code name which would tie their results together since the questionnaires were anonymous. We decided to do this in writing, in controlled conditions of formal classroom in agreement with the lecturer.

Firstly, our participants were presented with *Language biography questionnaire* and *Associations questionnaire* (in Croatian). They were asked to give general data about themselves in the *Language biography questionnaire*: the year of their studies, their L1, their gender and the period

[4] Original questionnaires are available in the appendix.

of their formal education in English and Russian. Alongside that, they were asked to state additional foreign languages they have learned and marks they obtained in their Language Practice Course in both English and Russian. The final piece of information requested from participants was their self-evaluation of their language knowledge in English and Russian, using the CEFR scale (A1-C2). After that, they were administered the instrument. They read the instruction written on the test which were then once again explained orally. Instructions included information about the aim of the study, research procedure and their consent. Before starting the questionnaire, they had the time to ask additional questions or leave the classroom in case if they refused to participate in the study. Nobody refused to participate, so they were instructed to give all the answers within 3 minutes from the signal. This same drill was repeated two more times for English and Russian within the two following weeks to guarantee optimal results.

5.4. Instrument

For this research, a list of 15 stimulus words was used to obtain discrete associations. The rationale behind our choice depended on the cultural interrelation between Croatian and Russian – half of the lexemes have no culture-specific meaning, whereas the other half has proven to be a part of Russian national *kernel of linguistic consciousness ("ядро языкового сознания").* All selected words were nouns and no distractors were included in the test.

We have taken inspiration from the dictionary published under the name *Учебный ассоциативный словарь русского языка ('Associative dictionary of the Russian language for language learners')* which includes the most used stimulus words by learners of Russian as a foreign language and was first published in 2017. Knowing the importance of keeping up with the most recent work when dealing with spoken language, we have recognized the importance of this work. This work was grounded in the pivotal associative dictionary of the Russian language – *Русский ассоциативный словарь (*'The Russian Associative dictionary'), which is still being referred to by researchers in the field of linguistic culturology and lexicography as one of the most comprehensive and high-quality associations dictionaries of Russian. We have therefore compared the response lists in *Учебный ассоциативный словарь русского языка* and *Русский ассоциативный словарь* and have chosen the most representative stimuli for our research on the basis of that comparison. We proceeded to analyse our results using both dictionaries, with greater emphasis on the *Русский ассоциативный словарь* seeing that we were able to choose the

demographics of respondents in accordance to our sample (in the online version of the dictionary) in order to get approximately the same representation of concepts.

In addition, stimuli words which made the final cut had to be translatable from Croatian into both foreign languages, and had to stay in the same word class when translated. Besides that, in order to inspect whether there were differences in conceptualization and whether L1 mediation was present, we varied chosen stimulus words on concretness and cognate status, which, according to the aforementioned research by van Hell and de Groot often result in translations (1998, p. 193) because of the fact that concrete nouns and cognates more often share conceptual representation than abstract nouns and noncognates. As it was expected, there were more cognate pairs in Croatian and Russian than in English due to the shared etymological roots. To illustrate: *vrijeme – время, majka – мать, ruka – рука, medvjed – медведь, zlo – зло, sudbina – судьба, duša – душа*, as well as some false cognates in Russian: *живот* (‘*stomach*’ instead of ‘*life*’ in Croatian), *искусство* ('*art*' instead of '*experience*' in Croatian), *куча* ('*a lot*' instead of '*house*' in Croatian). These interferences were expected in answers and in case of their appearance, they would be indicative of the latter statement.

Further on, we have used frequent words which were considered to always give the same responses (*evil, arm, life, mother, friend*), the ones which were supposed to have a broad domain of associates (*money, yearning, experience, fate, war, time, soul, homeland*) and finally, the ones which were believed to be culture-specific in the Slavic tradition, i.e. in Croatian and Russian (*soul, life, bear, house, fate, war, mother, homeland, yearning*). Also, there is a similar proportion of abstract and concrete nouns, which were compared concerning the dispersity of the responses and stability of their centres – we have divided our stimuli on concrete and abstract nouns, having in mind that concrete noun should share conceptual representation more often than abstract ones. Concrete nouns among stimuli were *house, arm, bear, friend, mother, homeland*, whereas *yearning, evil, life, experience, fate, war, time, soul* have been labelled as abstract nouns.

The final word-list included 15 stimulus words adequately translated into Croatian, English and Russian and later on administered in a random order, as shown in Table 8.

Table 8. Lists of stimulus words in Croatian, English and Russian[5]

CROATIAN	ENGLISH	RUSSIAN
kuća	house	дом
domovina	homeland	родина
sudbina	fate	судьба
sjeta	yearning	тоска
duša	soul	душа
život	life	жизнь
zlo	evil (N)	зло
medvjed	bear (N)	медведь
rat	war	война
prijatelj	friend	друг
vrijeme	time	время
iskustvo	experience	опыт
majka	mother	мать
novac	money	деньги
ruka	arm	рука

6. Results and discussion

The first stage of statistical processing of results were the frequencies with general comments about the findings. These comments can be found after each list. Furthermore, the lists are followed by a detailed cross-language comparison of each stimulus on three different levels – associative connection to the stimulus, i.e. response type, semantic field (including concretness and cognate status of stimuli) and idiosyncratic responses, all connected to aforementioned research questions. Also, remarks grounded in linguistic culturology theory will be added for the stimuli which are considered to be culturally marked in Russian, as presented by Ufimtseva, and therefore, should be culturally marked in Croatian too – *bear, yearning, fate, war, life, soul, mother, homeland*.

[5] Meanings of all stimulus words in Croatian, Russian and English can be found in the Appendices.

We believe that the choice of stimulus words related to a specific culture and specific cultural stereotypes shaped by native speakers (Stefanović, 2005, p. 23) will discover to which extent shared mentality of speakers shapes their conceptualisation. Results related especially to Slavic nations have shown that similarities in way in which Russians, Bulgarians and Serbians associate exist (Dragićević , 2010, p. 73) – in Ufimtseva's words, they are considered to be *silent heritage* ("*молчаливое наследие*") (2009, p. 102) – they mirror national culture of a speaker – represent the prolonged influence of the environment and language community. We are expecting to find out whether or not they will yield the same responses as in Russian to verify the shared mentality, i.e. the power of shared Slavic heritage which is mostly subconsciously transmitted through socialization.

Additionally, Ufimtseva argues that linguistic consciousness is a category which is perceived as a group of consciousness categories which use our social knowledge related to linguistic signs. So far, one prevailing method of materializing this linguistic consciousness are associations elicited from native speakers – the answers point to the uniqueness of a linguistic picture of the world (2003, p. 103). These nuances of meaning, which depict a culture in all its symbolic broadness, i.e. material, practical and mental layers of meaning can be acquired by language learners only with massive efforts (Ufimtseva, 2003, p. 104).

To illustrate, culturally marked words in Russian evoke certain feelings, thoughts and associations when used. They have been embedded into the tradition from olden times and therefore they are used in many sayings, songs, stories and literature. One meaning for each used linguocultureme will be briefly provided in order to make understanding easier. *Bear*, i.e. *'медведь'* is the national animal of Russia, and Russia is known as 'the land of bear'; the bear even bears the nickname '*host*' (among others), and it is generally assigned characteristics like hospitality and maternal protection on one hand and anger and primitivity on the other hand. *Yearning*, i.e. *'тоска'* is a part of Russian mentality, a state in which one can find themselves feeling sad, depressed and anguished. This concept also does not have an adequate equivalent in Croatian and English and is not translatable. It was often used in literature, especially during the periods of romanticism and realism and its meaning can be grasped completely only through such contexts. Further, *fate*, i.e. *'судьба'* is very similar to the previous linguocultureme in sense that it is vital in understanding the Russian mentality, just like *yearning* and *soul*. It bears the meaning of unpredictability and uncontrollability

of one's future, all caused by secrecy and inevitability of life. *War*, i.e. '*война*' is closely related to the history of a nation, and the war that marked Russian consciousness was the First World War, which they call "*Великая отечественная война"* (‘*The Great Patriotic War’),* since Russia was directly attacked by the French aggressor. The following concept, *life*, i.e. '*жизнь*' is one of the essential concepts of every linguistic map of the world, and Russian is no excuse in this case. It is the most frequent topic in literature and sayings, always related with time and passing. The concept *soul*, i.e. *'душа'* is used in phraseology, just like most of these linguoculturemes, but the specificity is that it describes ‘*the Russian soul’* (“*русская душа”),* a concept which accounts for Russian natural tendency to be passive, fatalistic, pessimistic and overl(t)y emotional. *Mother,* i.e. '*мать*' is considered to be one of the central concepts in everyone's life since she is usually connected to caring about others, raising children and holding the family together. *Homeland*, i.e. *'родина'* is etymologically related to the closest members of family – *kin*, i.e. ‘*род*’ and the place where one was born, so it evokes feelings of love and pride. Generally, it is represented in works of literature in a positive light.

To begin with, to make a statistical representation of elicited associates, we used a semantic lexicography model provided by N.V. Ufimtseva. This representation gives us the opportunity to perceive that, “besides the informative significance of each figure, their correlation characterizes an entry as a whole, namely as a natural-linguistic field which has not only a structurally lexicographic but also an ontological status: the associative field is not only a fragment of human verbal memory (knowledge), a fragment of semantic and grammatical relations, but a fragment of the ethnic worldview” (А.А. Уфимцева, 1962, p. 39).

The results gained by analysis of all three questionnaires with accounts of frequencies in all three languages are listed below starting with Croatian, followed by English, and lastly, Russian. To make sure that the entries are understood, we have used guidelines used by N.V. Ufimtseva (2009, p.102) to present them. The name of as single dictionary entry is in fact a stimulus, and responses given to that stimulus are listed in descending order of frequency, which is pointed out after each response, e.g. **ЧЕЛОВЕК** – животное **23**; умный **21**; хороший **20**; обезьяна **19**[6], etc. or at the end of a group of responses with the same frequency (responses within the group with the same frequency are listed in alphabetical order, e.g. **ЧЕЛОВЕК** – большой, гордый, машина **5**; враг,

[6] Human (N) – animal **23**, smart **21**, good **20**, monkey **19**, etc.

высокий, глупый, дурак, индивид, собаке друг **4**[7], etc. A dictionary entry ends with four figures, e.g. **ЧЕЛОВЕК**… **569+244+30+163** with the first figure giving the counts of all responses to the stimulus, the second the number of different answers, the third the number of blank responses, i.e. missing responses and the fourth the number of idiosyncratic responses, i.e. the number of responses with a frequency of 1.

The following lists and comments represent units gathered by analysing data gained in our experiment. We also want to emphasize the fact that neologisms coined by our participants without any definite ascribed meaning will appear in these lists, but in our opinion, they are important for further analysis. For example, *комить* or *звер*.

Croatian[8]

kuća – *dom* ***24****; krov* ***5****; house* ***4****; дом, obitelj, sigurnost* ***2****; izgradnja, jabuka, jezero, ljubav, mama, roditelj, tata, tepih, toplina, toplo, zgrada* ***1****;* ***50+17+0+11***

ruka *– noga* ***13****; prst* ***12****; tijelo* ***4****; hand, prsten, šaka* ***3****; arm, dlan, рука* ***2****; čovjek, desna, kemijska, ruke, stvar, šapa* ***1****;* ***50+15+0+6***

medvjed *– šuma* ***10****; Maša* ***6****; med* ***5****; životinja* ***4****; brlog, grizli, медведь, medo, šapa* ***2****; bear, dlaka, lov, Маша, mrki, napad, prijevod, riba, Rusija, slatko, smeđe, smeđi, uho, velik, zimski san* ***1****;* ***50+24+0+15***

sjeta *– tuga* ***30****; nostalgija* ***3****; tama, тоска* ***2****; /, čemer, dom, jesen, ljeto, mrak, nevoljnost, nostalgia, Oliver Dragojević, prošlost, sjenica, suza, uspomena* ***1****;* ***50+17+1+12***

zlo *– dobro* ***11****; vrag* ***7****; evil, pakao* ***3****; crno, loše, neprijatelj, nesreća, vještica,* ***2****; bol, crna boja, ljudi, maćeha, naopako, nemoć, nužno, papir, rogovi, Saruman, sotona, strah, trulo, vatra, зло, žalost* ***1****;* ***50+25+0+16***

život *– smrt* ***14****; жизнь* ***4****; dug, sreća* ***3****; dijete, lijep, ljubav* ***2****; beba, biljka, cesta, dar, duljina, iskustvo, kratak, life, more, nevolja, nije fer, proći, put, radost, rađanje, sjena, Sunce, trbuh, tuga, voda* ***1****;* ***50+27+0+20***

iskustvo – *rad* ***8****; posao, znanje* ***5****; umjetnost* ***4****; experience, godine, опыт, starost, život* ***3****; mudrost* ***2****; brada, deda, иссукуство, nemam, neprocjenjivo, seksualno, spoznaja, sudbina, učitelj, vještina, vrijeme* ***1****;****50+21+0+11***

[7] Human (N) – big, proud, automobile **5**; enemy, tall, stupid, fool, individual, dog's friend **4**

[8] The translation of all obtained responses in Croatian is provided at the end of this thesis (Appendix H).

sudbina *– život **4**; kleta **3**; budućnost, fatalna **2**; amor fati, chance, destiny, Edip, faith, fate, fatum, gatanje, horoskop, iskustvo, karte, kraj, kugla, laž, ljubav, ne postoji, neizmjenjivo, nepoznato, određena, određenost, predosjećaj, put, raj, ruke, sijed, sloboda, slučajnost, spajanje, sreća, sretna, strepnja, sudba, судьба, tarot, teška, tragedija, vjera, zvijezde **1; 50+42+0+40***

rat *– mir **16**; war **4**; smrt, užas, vojska **3**; bitka, strah, tuga, zlo **2**; bol, film, ljubav, mačevi, neprijateljstvo, nevolja, oružje, politika, stradavanje, tenk, top, война, vojnik **1; 50+22+0+13***

prijatelj *– drug **8**; friend, sreća **3**; dobar, dobro, друг, društvo, ljubav, oslonac, podrška, povjerenje, sigurnost **2**; brat, Chandler, čovjek, dobrota, kava, Matko, najbolji, neprijatelj, pas, приятель, prijateljica, prijateljstvo, rođendan, ruka, srce, vječnost, zabava, zagrljaj **1**; **50+30+0+18***

vrijeme *- sat **9**; prolaznost **8**; time **5**; novac **4**; dugo, nevrijeme, prolazak, prolazi, sunčano **2**; brzina, brzo, kiša, leti, linija, oblak, pješčani sat, promjena, protjecati, rijeka, sunce, teče, teći, время, žurba **1**; **50+24+0+16***

duša *– srce **9**; soul **4**; čovjek **3**; Bog, dobra, duh, magla **2**; bol, crno, duhovnost, душа, Iva, lebdjeti, ljubav, mir, nematerijalno, nevidljivo, osoba, religija, smrt, spiritualno, sreća, sredina, srodna, svjetlost, tijelo, toplina, um, unutrašnjost, vječnost, vjera, vjernost, vrag **1**; **50+33+0+26***

majka *– otac **14**; ljubav **9**; мать **3**; dijete, djetinjstvo, dom, mother, obitelj **2**; briga, caretaker, dobra, kći, мама, mati, nepoznanica, osmijeh, parfem, roditelj, sigurnost, tata, toplina, Vesna **1**; **50+22+0+14***

novac *– money **4**; sigurnost **3**; dolar, kuna, luksuz, ovce, pare, posao, zeleno **2**; banka, bogatstvo, деньги, dolari, dug, emoji, financije, gotovina, imovina, kupiti, lagoda, moć, nema, neophodno, novčanica, nužno zlo, odjeća, papir, pohlepa, porez, problem, prolaznost, putovanje, skupo, stvari, vrijeme, zašto, zlato, život **1**; **50+38+0+29***

domovina *– Hrvatska **16**; država, zemlja **3**; dom, homeland, ljubav, moja, родина, srce **2**; borba, jedna, karta, kuća, ognjište, partia, patriotism, patriotizam, prošlost, rad, razočaranje, Thompson, Tuđman, zajedništvo, zastava, zeleno **1**; **50+25+0+16***

English

house *– home **23**; kuća **5**; family, roof **4**; warmth **2**; bread, brick, building, countryside, dom, household, mama, mouse, peace, safety, window, yard **1**; **50+17+0+12***

homeland *– country **12**; Croatia **11**; domovina, security **5**; grass, flag **2**; defense, founding fathers, home, Hrvatska, map, mother, nation, nostalgia, patriotism, people, state, TV, TV-show **1**;* ***50+19+0+13***

fate *– destiny **21**; sudbina **4**; God, hope, unknown, vjera **2**; chance, cursed, death, fortuneteller, good, inevitable, justice, light, love, master, non-existant, passion, path, quote, twist, unavoidable, white **1**;* ***50+23+0+16***

yearning *– longing **8**; desire **7**; sadness, wish **3**; čežnja, love, lust, nostalgia, want, želja **2**; craving, crisis, eagerness, emotion, home, homesickness, iščekivanje, morning, pain, regret, Seinfeld, sorrow, wanting, warm, will, wishing, žud **1**;* ***50+27+0+16***

soul *– body, duša, mate **5**; heart, spirit **4**; death, ghost, purity, life **2**; alive, bind, colour, destiny, eternal, eternity, faith, forever, free, God, kindness, mortality, peace, sad, searching, sister, soulmate, white, warmth **1**;* ***50+28+0+19***

life *– death **15**; život **5**; beautiful, happiness, path **2**; adventure, baby, blank, celebration, child, dead, eternal, eternity, experience, extraterrestiral, God, heaven, human, innocence, living, long, love, one, plant, short, travelling, water, wealth, white **1**;* ***50+29+0+24***

evil (N) *– good **13**; devil **9**; zlo **5**; bad, dark **2**; /, black, cold, darkness, death, dog, fire, goodness, harm, hell, Hitler, mind, movie, people, pure, red, Satan, vile, witch **1**;* ***50+24+1+19***

bear (N) *– animal **8**; medvjed, honey **5**; forest, woods **4**; fluffy, grizzly **2**; brown, cub, danger, fur, mauled, medo, mighty, mother, polar, practice, Putin, rabbit, sleep, strong, teddy, trap, uho, wolf, wood, yogi **1**;* ***50+27+0+20***

war *– peace **13**; death **7**; gun, rat **4**; tank **2**; /, anger, army, battle, corpses, destroy, destruction, dirt, earth, end, evil, fight, horse, life, love, misery, oružje, pain, soldier, zlo **1**;* ***50+25+1+19***

friend *– love **7**; prijatelj **5**; best, foe **4**; fun, help **3**; enemy, family, honesty **2**; ally, bond, college, comfort, company, false, fortune, friendship, happiness, home, Karlo, laugh, loyal, people, Ross, safety, support, warmth **1**;* ***50+27+0+18***

time *– clock **7**; money **6**; vrijeme **5**; passing **3**; flies, hour, life, place, space **2**; continuum, day, endless, expendable, fly, frame, happening, infinity, lack, lifetime, long, out, passing by, period, quick, short, shortage, tight, waste **1**;* ***50+28+0+19***

experience *– life **9**; work **8**; iskustvo **5**; job **4**; old, travel, wisdom 2; beard, CV, destiny, expensive, hand, important, inexperience, journey, knowledge, money, past, proper, rich, school, skill, skydiving, value, znanje* ***1; 50+25+0+18***

mother *– love* ***16****; father* ***10****; majka, mama* ***3****; brother, caretaker, caring, child, comfort, daughter, family, good, home, land, nature, nurture, safe, smile, Theresa, Vesna, warmth, woman* ***1****;* ***50+22+0+18***

money *– green* ***6****; novac* ***5****; gold* ***3****; bank, capitalism, cash, coins, dollars, earn, rich, security, time, wealth, work 2; ATM, candy, earnings, importance, job, life, luxury, material, paper, power, spend, unnecessary, valuable, wallet* ***1****;* ***50+28+0+14***

arm *– leg* ***19****; hand* ***9****; finger, ruka* ***4****; body* ***3****; doing, fire, firearm, guns, left, long, oružje, possibility, shoulder, sword, watch* ***1****;* ***50+17+0+11***

Russian [9]

опыт – *жизнь* ***10****; работа* ***9****; iskustvo* ***5****; жизненный, знание, исскуство, путешествие* ***2****; /, бизнес, большой, вопрос, время, годы, жизни, iskusan, искусство, качество, мастерство, мудрость, память, помощ, практика, snaga, старость, старый* ***1****;* ***50+25+1+17***

судьба *– жизнь* ***13****; авось, sudbina* ***4****; будущее* ***3****; человек, любовь* ***2****; /, горькая, дело, <u>диля</u>, дорога, život, злая, ирония, легко, не существует, нужно, одна, опыт, печаль, предопределение, роковая, роковой, связать, суеверия, sudba kleta, человека, человеческая* ***1****;* ***50+28+1+22***

мать *– отец* ***12****; любовь* ***8****; дом* ***6****; родина* ***4****; тата, папа* ***3****; мама* ***2****; бабушка, Горький, Горького, dijete, добрая, дочь, моя, музыка, семья, сердце, sigurnost, улыбка* ***1****;* ***50+19+0+12***

деньги *– novac, работа* ***4****; имущество* ***3****; богатый, бумага, зеленый, золото* ***2****; /, бабки, бабушка, дорогое, zeleno, зеленое, зеленые, zlato, карман, копейка, кошолек, материально, монеты, не хватает, нет, нужные, пафосный, penezi, перевод, платить, путешествие, Путин, работать, рубаль, рубли, сила, успех, финансы, экономить* ***1****;* ***50+38+1+31***

война *– мир* ***31****; rat* ***4****; битва, отечественная, печаль, смерть* ***3****; войско, krv, солдат, страдание, тревога, ужас* ***1****;* ***50+12+0+6***

рука *– нога* ***19****; палец* ***9****; ruka, тело* ***3****; ручка* ***2****; армия, возможность, дело, десница, душа, кожа, ладонь, ногт, ножка, персть, перчатка, помощ, prijatelj, строитель* ***1****;* ***50+19+0+14***

жизнь *– смерть* ***14****; život* ***3****; бытие, горькая, опыт, рождение, судьба, такая* ***2****; век, время, долгая, долго, живот, искусство, короткий, люди, младенец, одна, одная, окончена, проклятая, put, radost, радость, сладкая, счастие, трудно, человек, человечество* ***1****;* ***50+29+0+20***

[9] The translation of all obtained responses in Russian is provided at the end of this thesis (Appendix I).

дом *– семья* ***10****; квартира* ***5****; крыша* ***3****; дом, здание, kuća* ***2****; /, готовы, далеко, дача, деревня, домик, domovina, домохозяйка, djetinjstvo, жилье, кухня, куча, любовь, мать, обеспеченность, огонь, очаг, родина, собака, тепло, теплота, тяжелый, уютный, фамилия, хозяин, хозяйство* ***1; 50+32+1+26***

душа *– сердце* ***14****; тело* ***4****; duša, любовь, моя* ***3****; дух, в душу* ***2****; вера, веселая, внутренний мир, грехи, дох, душа, небо, невидимое, потусторонно, родственная, русские, самое главное, семья, смерт, собака, сосиски, tijelo, человека, черт* ***1; 50+26+0+19***

время *– часы* ***6****; vrijeme* ***4****; достаточно* ***3****; быстро, год, деньги, идет, летит, погода, течение* ***2****; вовремя, вселенная, вытечь, денги, дождик, жизнь, и стекло, идти, лететь, линия, некогда, немного, ночь, пролетит, протекает, sat, сегодня, стекло, течет, тяжелое, уходящее, časak* ***1; 50+33+1+23***

родина *– Хорватия* ***15****; мать, страна* ***7****; дом* ***4****; domovina, Россия* ***3****; большая, война, держава, защищать, zemlja, земля, любовь, moja domovina, отец, памятник, патриотизм* ***1; 50+17+0+11***

зло *– добро* ***16****; zlo* ***4****; враги, черт* ***3****; дьявол, злость, тьма* ***2****; ад, враг, Гитлер, доброе, доброта, дявол, змея, золото, комить, красный цвет, несчастье, плохо, правда, смерт, собака, страдание, страх, хорошо, crveno* ***1; 50+25+0+18***

друг *– подруга* ***15****, друзья, лучший, помощь* ***4****, враг, prijatelj* ***3****, брат, дружба, любовь, счастье* ***2****, ale noći i piće toči, знакомство, надежный, pomoć, prijaznost, собака, Тито, товарищ, человек* ***1; 50+19+0+10***

тоска *– грусть* ***8****; печаль* ***6****; скука* ***5****; /* ***4****; слезы* ***3****, čežnja, счастье* ***2****, беда, bol, жалость, гибель, домь, daska, доска, желание, кровать, меланхолия, мучение, ностальгия, радость, сумка, темно, тревога, уныне, черная, эмоция* ***1; 50+26+4+19***

медведь *– Маша* ***18****; лес, мед* ***5****; животное* ***4****; medvjed* ***2****; видра, заяц, лапы, звер, лисица, Маša, medo, медвежонок, Москва, мышь, Путин, Россия, рыба, сон, smeđe, шерсть* ***1; 50+21+0+16***

6.1.Response type

Karaulov claims that associations reveal how language mechanism functions – they usually reveal three layers of language specificity: grammar-semantic, cognitive and pragmatic relations (2002, p. 751-753). As well, he adds that there are always some “leftovers”: pieces of information that bear information about the world, or speaker’s stance towards the world. That information can be

divided into three categories: extralinguistic information, dialogue information and intuitive knowledge of a native speaker (Karaulov, 2002, p. 754-755). As pre-formulated speech they convey only meaning that can be verbalised (Karaulov, 2002, p. 755), or in other words, ways in which a speaker memorises words related to each other.

In this section we are going to discuss the preferred type of responses given by our participants, and give overall comments about their significance[10]. We are aware that obtained responses are not deterministic (Priss & Old, 2007, p. 1) because of the fact that "associations change over time within an individual, but they also differ among different individuals within a speech community" (Lowie, Vespoor, & Seton, 2008, p. 137). Nonetheless, at least a still frame of their knowledge at a particular level of proficiency and moment can be depicted. A mental lexicon can be highly idiosyncratic and does not have to adhere to any "linguistically significant relations, such as etymology, but, instead, a mental lexicon is influenced by social, psychological and cultural factors" (Priss & Old, 2007, p. 3). The conclusions about the associative norms in bilingual's non-native languages are unclear not only because of high variability in bilingual populations, but also due to methodological factors (Matryushevich, Delaghi, & Stevenson, 2018, p. 46) – due to the elusive nature the of mental lexicon, various approaches to measurements and instruments have been developed, and it has been proven that it is very difficult to standardise research in this area. In order to minimize the impact of the perpetually changing concepts and activation of different links, we have decided to choose concepts with relative stability of representation which depend on use – "with increased use, representations (will) become more stable and more easily retrieved" (de Boot & Lowie, 2010, p. 120) – only salient and level appropriate stimuli have been included in our research.

Table 9. Stimulus *house*.

		frequency	percent
Croatian	paradigmatic	49	98.0
	syntagmatic	1	2.0
		frequency	percent
English	paradigmatic	49	98.0
	clang	1	2.0
		frequency	percent

[10] A table containing the full list of stimuli and responses can be found in the Appendices and here we are going to analyse each stimulus individually.

Russian	paradigmatic	44	88.0
	syntagmatic	5	10.0
	missing	1	2.0

The first stimulus to be analysed is *house (kuća, дом)*. In Croatian and English 1 associate was clang and the rest 49 of them were paradigmatic, whereas in Russian 5 participants opted for syntagmatic responses, with the majority of paradigmatic responses, 44 participants.

Table 10. Stimulus *arm*.

		frequency	percent
Croatian	paradigmatic	49	98.0
	syntagmatic	1	2.0
		frequency	percent
English	paradigmatic	46	92.0
	syntagmatic	4	8.0
		frequency	percent
Russian	paradigmatic	50	100.0

For the second stimulus – *arm (ruka, рука)*, results show almost the same frequency of responses in Croatian and Russian, with only 1 syntagmatic response making the difference, even though the frequency of paradigmatic responses is high over all three languages.

Table 11. Stimulus *bear*.

		frequency	percent
Croatian	paradigmatic	43	86.0
	syntagmatic	7	14.0
		frequency	percent
English	paradigmatic	40	80.0
	syntagmatic	10	20.0
		frequency	percent
Russian	paradigmatic	48	96.0
	syntagmatic	1	2.0
	clang	1	2.0

The third stimulus, *bear (medvjed, медведь)*, gave us the most versatile results so far. In Croatian there were 43 paradigmatic and 7 syntagmatic responses, in English 40 responses were paradigmatic with 10 syntagmatic, whereas in Russian we have 1 omission and 48 paradigmatic responses with only 1 syntagmatic. This amounts to greater similarity between English and Croatian, where greater diversity of bear species was used in responses, with Russian having the greatest part of paradigmatic responses due to a well-known precedent text – a cartoon named *Medo i Maša*.

Table 12. Stimulus *yearning*.

		frequency	percent
Croatian	paradigmatic	49	98.0
	missing	1	2.0
		frequency	percent
English	paradigmatic	44	88.0
	syntagmatic	5	10.0
	clang	1	2.0
		frequency	percent
Russian	paradigmatic	41	82.0
	syntagmatic	3	6.0
	clang	2	4.0
	missing	4	8.0

As expected, the fourth stimulus, *yearning (sjeta, носка)* yielded 49 paradigmatic responses in Croatian, 44 paradigmatic and 5 syntagmatic responses in English and 41 paradigmatic, 3 syntagmatic and 2 clang associates in Russian, with 4 omissions. The omissions present for *носка* (‘*yearning’*) can be due to the fact that this word does not exists in Croatian mentality, so there is a greater possibility that it was not known by all the students, though it should have been acquired by the third year of study.

Table 13. Stimulus *evil*.

		frequency	percent
Croatian	paradigmatic	43	86.0
	syntagmatic	7	14.0

		frequency	percent
English	paradigmatic	39	78.0
	syntagmatic	10	20.0
	missing	1	2.0
		frequency	percent
Russian	paradigmatic	44	88.0
	syntagmatic	5	10.0
	clang	1	2.0

The fifth stimulus, *evil (zlo, зло)* prompted 43 paradigmatic responses and 7 syntagmatic ones in Croatian, 39 paradigmatic and 10 syntagmatic in English and 44 paradigmatic and 5 syntagmatic in Russian, with English showing the highest degree of deviation, probably because it can be perceived as both noun and an adjective in English, giving our participants more room for manipulation and more links to the concept.

Table 14. Stimulus *life*.

		frequency	percent
Croatian	paradigmatic	41	82.0
	syntagmatic	9	18.0
		frequency	percent
English	paradigmatic	38	76.0
	syntagmatic	12	24.0
		frequency	percent
Russian	paradigmatic	36	72.0
	syntagmatic	14	28.0

The sixth stimulus, *life (život, жизнь)* resulted in 41 paradigmatic and 9 syntagmatic responses in Croatian, and on the other hand, it is interesting to see that both foreign languages have the same distribution of responses over the paradigm – 38 paradigmatic and 12 syntagmatic responses in English and 36 paradigmatic and 14 syntagmatic responses in Russian.

Table 15. Stimulus *experience*.

		frequency	percent
Croatian	paradigmatic	47	94.0
	syntagmatic	3	6.0

		frequency	percent
English	paradigmatic	42	84.0
	syntagmatic	8	16.0
		frequency	percent
Russian	paradigmatic	42	84.0
	syntagmatic	6	12.0
	clang	1	2.0
	missing	1	2.0

The seventh stimulus, *experience (iskustvo, опыт)*, prompted almost identical answers across all the languages, so it is going to be interesting to see the way in which this concept is semantically constructed – even though it is an abstract and noncognate noun, this distribution shows no significant deviations across languages.

Table 16. Stimulus *fate*.

		frequency	percent
Croatian	paradigmatic	38	76.0
	syntagmatic	12	24.0
		frequency	percent
English	paradigmatic	42	84.0
	syntagmatic	8	16.0
		frequency	percent
Russian	paradigmatic	37	74.0
	syntagmatic	11	22.0
	clang	1	2.0
	missing	1	2.0

The stimulus *fate (sudbina, судьба)*, the eighth stimulus, yielded 38 paradigmatic and 12 syntagmatic responses in Croatian, 42 paradigmatic and 8 syntagmatic in English, with 37 paradigmatic, 11 syntagmatic and 1 clang associate in Russian. Again, the distribution of responses is similar in Croatian and Russian, with Russian having both clang and omission present, showing that some participants had problems with providing answers.

Table 17. Stimulus *war*.

	frequency	percent

Croatian	paradigmatic	50	100.0
		frequency	percent
English	paradigmatic	46	92.0
	syntagmatic	3	6.0
	missing	1	2.0
		frequency	percent
Russian	paradigmatic	48	96.0
	syntagmatic	2	4.0

War (rat, война), the ninth stimulus, prompted 50 paradigmatic responses in Croatian, 46 paradigmatic and 3 syntagmatic responses in English and 48 paradigmatic and 2 syntagmatic response in Russian. This stimulus has a clear-cut distribution, with only native-like responses being provided, showing a clear construal in our participants' minds.

Table 18. Stimulus *friend.*

		frequency	percent
Croatian	paradigmatic	45	90.0
	syntagmatic	5	10.0
		frequency	percent
English	paradigmatic	43	86.0
	syntagmatic	7	14.0
		frequency	percent
Russian	paradigmatic	44	88.0
	syntagmatic	5	10.0
	clang	1	2.0

The tenth stimulus, *friend (prijatelj, друг)*, yielded 45 paradigmatic and 5 syntagmatic responses in Croatian, 43 paradigmatic and 7 syntagmatic responses in English and 44 paradigmatic and 5 syntagmatic results in Russian. *Friend* has similar distribution as *war*, which could indicate that participants know the meaning of the word very well.

Table 18. Stimulus *time*.

		frequency	percent
Croatian	paradigmatic	39	78.0
	syntagmatic	11	22.0

		frequency	percent
English	paradigmatic	36	72.0
	syntagmatic	14	28.0
		frequency	percent
Russian	paradigmatic	29	58.0
	syntagmatic	20	40.0
	missing	1	2.0

Stimulus *time (vrijeme, время)*, the eleventh stimulus evocated 39 paradigmatic and 11 syntagmatic responses in Croatian, 36 paradigmatic and 14 syntagmatic responses in English and 29 paradigmatic and 20 syntagmatic responses in Russian. Though results show greater correlation of distribution between Croatian and English concepts, we have to emphasize that our participants did have two concepts in mind, with most of syntagmatic responses provided here regarding the weather conditions.

Table 19. Stimulus *soul*.

		frequency	percent
Croatian	paradigmatic	42	84.0
	syntagmatic	8	16.0
		frequency	percent
English	paradigmatic	42	84.0
	syntagmatic	8	16.0
		frequency	percent
Russian	paradigmatic	39	78.0
	syntagmatic	11	22.0

The twelfth stimulus – *soul (duša, душа)* resulted in 42 paradigmatic and 8 syntagmatic associates in Croatian, 42 paradigmatic and 8 syntagmatic responses in English and 39 paradigmatic and 11 syntagmatic response in English. Once again, the Russian equivalent, *душа ('soul')*, indicates one Russian trait – "*судейский комплекс*" – the need to express opinion and attributes.

Table 20. Stimulus *mother*.

		frequency	percent
Croatian	paradigmatic	49	98.0
	syntagmatic	1	2.0

		frequency	percent
English	paradigmatic	46	92.0
	syntagmatic	4	8.0
		frequency	percent
Russian	paradigmatic	46	92.0
	syntagmatic	4	8.0

The thirteenth stimulus, *mother (majka, мать)*, resulted in 49 paradigmatic and 1 syntagmatic response in Croatian, 46 paradigmatic and 4 syntagmatic responses in English and 46 paradigmatic and 4 syntagmatic responses in Russian. This distribution does not surprise since this word is a cognate and concrete, with even the same attributes appearing across the responses – there is a possibility that this word has a common store because the person behind the word is unique for every participant and shares traits in all languages.

Table 21. Stimulus *money*.

		frequency	percent
Croatian	paradigmatic	42	84.0
	syntagmatic	7	14.0
	clang	1	2.0
		frequency	percent
English	paradigmatic	36	72.0
	syntagmatic	14	28.0
		frequency	percent
Russian	paradigmatic	31	62.0
	syntagmatic	17	34.0
	clang	1	2.0
	missing	1	2.0

The penultimate stimulus, *money (novac, деньги)*, yielded 42 paradigmatic, 7 syntagmatic and 1 clang response in Croatian, 36 paradigmatic and 14 syntagmatic in English with 31 paradigmatic, 17 syntagmatic and 1 clang response in Russian. This distribution was somewhat expected because money has personal meaning for every speaker and a wide range of use.

Table 22. Stimulus *homeland*.

	frequency	percent

Croatian	paradigmatic	46	92.0
	syntagmatic	4	8.0
		frequency	percent
English	paradigmatic	50	100.0
		frequency	percent
Russian	paradigmatic	47	94.0
	syntagmatic	2	4.0
	clang	1	2.0

The last stimulus, *homeland (domovina, родина)*, evocated 46 paradigmatic and 4 syntagmatic responses in Croatian, 50 paradigmatic responses in English and 47 paradigmatic with 2 syntagmatic and 1 clang associates in Russian. *Homeland*, just like *mother*, is likely to share common storage, attributable to imaginary community and our sample made of solely Croats.

Except for the frequencies presented in the preceding tables, you can also notice that not all stimuli were given a response by all participants. Mostly we have obtained only 1 missing associate per stimulus, but when we take a look at *тоска ('yearning')*, we can see that 4 participants (8%) have not answered it. That could imply their lack of knowledge of this word. This is interesting since all other unanswered stimuli – *дом ('house'), sjeta ('yearning'), evil, опыт ('experience'), судьба ('fate'), war, время ('time'), деньги ('money')*) have the frequency of 2%, i.e. only one participant did not provide an associate. Since most of the words which miss an associate are in L3, i.e. Russian, statistics impose the conclusion that the lack of knowledge might have left our participants searching for words.

Moreover, the role and influence of proficiency can be showcased through the preferred response type by our participants if we exclude this small percentage of unanswered stimuli. Overall, the preferred response type was paradigmatic. According to the aforesaid authors and researchers, this means that our participants have experienced the syntagmatic-paradigmatic shift in their mental lexicon. Contrary to our personal experience and presuppositions about the multilingual mental lexicons at play, as well as theory grounded research conducted by Schmitt, the participants did not follow the syntagmatic governance, with the results showcasing the proportional relationship of the proficiency and the expected response type, as well as the dominant paradigmatic governance of multilinguals' mental lexicon. They show highly structured relations between concepts and associates, with nouns being the most frequent word class, then adjectives and verbs following as the least frequent.

When it comes to speakers with the highest proficiency, we cannot speak about the already available data in general since our sample was too small. However, from our findings, we can present results of two participants who have in their *Language biography* provided the highest estimation of proficiency. First of them, participant number 25 has estimated CEFR C2 English proficiency and CEFR C1 Russian proficiency, whereas participant number 37 has estimated CEFR C1 English proficiency and CEFR C1 Russian proficiency. As presented in their results (which can be found in the Appendices), they have not provided us with "pure" native-like results, i.e. paradigmatic results, as Schmitt claims in the abovementioned theoretical part of this thesis, but they have had a few of syntagmatic responses present. It is also interesting to observe that they would usually have slips in consistency within the same paradigm – e.g. the only slip that the participant number 25 had were stimuli *time* and *время ('time')*, whereas slips of participant number 37 count stimuli *vrijeme ('time')*, *duša ('soul')*, *life*, *time* and *жизнь ('life')*. Once again, there were slips within the same paradigm, this time with the stimuli *life* and *жизнь ('life')*. We cannot go into discussion about proficiency further than stating that these participants do show a consistency in the preferred answers they give, and that their preferred response type is paradigmatic. So far, these results prove the abovementioned claims made by Meara, who says that the type of associations goes through established developmental stages which are connected to learner's proficiency.

Apart from this, the number of clang associates present in this research in all three languages (with, of course, L3 displaying the majority of them) shows that once the syntagmatic-paradigmatic shift happens, the number of clang associates reduces or disappears completely. Our results show 12 clang associates overall, present only in *родина ('homeland')*, *деньги ('money')*, *novac ('money')*, *судьба ('fate')*, *друг ('friend')*, *опыт ('experience')*, *зло ('evil')*, *тоска ('yearning')*, *yearning*, *медведь ('bear')*, *house* (with *тоска* having 4 clang associates), which shows that speakers who have obtained proficiency levels above B2 usually do not use clang associates and very rarely use syntagmatic associations. Clang associations seem to serve the role of the missing link when describing the way in which language learners associate – they are the proof needed to showcase the progression in a learner, but in further research it would be interesting to see the results of less proficient learners using the same stimulus words to compare proportions of clang and syntagmatic associations.

In general, the ratio of paradigmatic and syntagmatic responses has been similar through all three languages, but there have been a few stimuli which have had a greater number of syntagmatic responses just like it was stressed in the individual analysis of stimuli. This can be seen in detail in the table *Complete overview of response type distribution* in Appendices. Moreover, it can be noticed that the highest numbers of syntagmatic responses appeared mostly in foreign languages – ratios of syntagmatic responses varied randomly, and the percentage of syntagmatic responses has never been higher than 40% per stimulus – *bear* (20%, English), *evil* (20%, English), *life* (28%, Russian), *fate* (24%, Croatian), *soul* (22%, Russian), *time* (40%, Russian), *money* (34%, Russian).

It is interesting to notice that a greater number of syntagmatic responses appeared in English than in Russian, which shows the non-existence of the abovementioned characteristic usually found in native Russians – the need to mark everything and give their opinion, i.e. *the judging complex* (*"судейский комплекс"),* as Ufimtseva emphasized. In addition, Croatian had the lowest rate of syntagmatic responses out of the three languages, which disproves the fact that typology and the way words are combined influences the association mechanism.

6.2. Associative and semantic fields

We are now going to proceed to the analysis of the responses with respect to the associative field theory, using the classification inspired by Novikov.

Since we think that the previously given example (in the section *Associative and semantic fields in linguistic* culturology) is not very illustrative and does not emphasize the interrelations clearly, we have decided to adjust Novikov's classification due to the fact that until this present moment we have not been made aware of any known research involving the same languages as our does, or in fact, more than one language being examined. We have decided to moderate the already existing and abovementioned model in a way that would fully suit parameters of our own experiment and make the interpretation of it plausible regarding the theoretical framework included in this thesis. The terminology and classification proposed by Novikov will be used as it was explained above, but it is in our interest to make the classification simpler and understandable with regard to our data. Regardless the fuzzy nature of word borders and fluctuating meaning, for the sake of our analysis, we are going to divide the layers around the central sphere according to the frequency of responses, as seen in Barčot, who used this principle in the book *Lingvokulturologija i zoonimska frazeologija*. It is important to emphasize that synonyms for the

kernel concept will be placed in the kernel with no regard to their frequency since they have the same meaning – no additional meaning can be inscribed into the concept since it has been inspected in isolation, out of context[11]. All other responses placed into the centre or periphery will be regarded according to the frequency principle.

Thus, to represent the re-imagined model postulated by Novikov, which we have decided to use in our analysis, we will take the concept *friend* as an example. Since we are inspecting the concept *friend*, we have automatically made it the kernel of our sphere, i.e. our onion. In the kernel you can find only this word, alongside with its synonyms in other available languages (Croatian and Russian in our case): *prijatelj/prijateljica ('friend'), друг ('friend'), товарищ ('friend')*. The first layer around the kernel is called the centre, and it includes the most frequent responses given to this concept in any given language – e.g. *sreća('happiness'), foe, лучший ('best')*. The second layer, i.e. the periphery consists of responses which had frequency equal to one or two – e.g. *zagrljaj ('hug'), warmth, человек ('human')*. Since the kernel consists of synonyms and the central concept, it will not be discussed here. Instead, we are going to discuss the centre of each associative field in detail.

As far as the stimuli, i.e. concepts discussed here are concerned, all 15 of them had their synonyms in L2 and L3 added to the kernel of the concept in Croatian, with the exception of *sjeta ('yearning')*, which did not have its absolute synonym or even an adequate translate equivalent (*yearning*) embedded in the kernel. Interestingly enough, in English and Russian respectively, only the Croatian synonym was embedded in the kernel of given stimuli. And once again, the stimulus *yearning* in English and *тоска ('yearning')* in Russian have proven to evoke the word *čežnja ('desire')* frequently enough to be considered meaningful in the way they perceive this concept. The word *čežnja ('desire')* only metonymically explains the word *sjeta ('yearning'*) (with the notion of melancholy and sadness prevailing, according to HJP[12]), and it is obvious that Croatian speakers share the same conceptualization of this concept in their L2 and L3, being at the same time different from their L1, in which the word *tuga ('sadness')* and *nostalgija ('notalgia')* appear as responses, with *čežnja ('desire')* not being evoked once. This has been taken as an example to show how the concepts we are going to analyse usually do not have a clear meaning unrelated to

[11] If, however, synonyms are not present, the kernel will only be the concept itself.
[12] Sjeta – definition provided by HJP: http://hjp.znanje.hr/index.php?show=search_by_id&id=d15mURM%3D .

other words because the differences between concepts are based on conventions of use among languages. Therefore, our opinion is conditioned by our perception and cannot be fully objective.

Associative field of *kuća-дом-house*.

kuća		
kernel	**centre**	periphery
house дом	**dom, krov**	obitelj, sigurnost, izgradnja, jabuka, jezero, ljubav, mama, roditelj, tata, tepih, toplina, toplo, zgrada
дом		
kernel	**centre**	periphery
дом kuća	**семья, квартира, крыша**	здание, /, готовы, далеко, дача, деревня, домик, domovina, домохозяйка, djetinjstvo, жилье, кухня, куча, любовь, мать, обеспеченность, огонь, очаг, родина, собака, тепло, теплота, тяжелый, уютный, фамилия, хозяин, хозяйство
house		
kernel	**centre**	periphery
kuća	**home, family, roof**	warmth, bread, brick, building, countryside, dom, household, mama, mouse, peace, safety, window, yard

As we can see, Russian and English equivalents have got the widest spectre of features that represent a house. One of the associates central to the concept *kuća/дом/house* are based on metonymy, which means that all dominant features of that concept have been centred – e.g. *krov/крыша/roof* has been centred as the most prominent part of a house in general, as well as the word *family*/*семья* is central as inhabitant of that living space. Croatian and English equivalents also feature the word *dom/home*, which consists of the living place and inhabitants of that same space, making up a related community. On the other hand, only the word *здание (‘apartment building’)* deviates from this pattern – it is the only word that could be considered as a co-hyponym to *house* because both are living spaces.

Associative field of stimulus *ruka-рука-arm.*

ruka		
kernel	**centre**	periphery
arm, рука	**noga, prst, tijelo, hand, prsten, šaka**	dlan, čovjek, desna, kemijska, ruke, stvar, šapa
рука		
kernel	**centre**	periphery
ruka	**нога, палец, тело**	ручка, армия, возможность, дело, десница, душа, кожа, ладонь, ногт, ножка, персть, перчатка, помощ, prijatelj, строитель
arm		
kernel	**centre**	periphery
ruka	**leg, hand, finger, body**	doing, fire, firearm, guns, left, long, oružje, possibility, shoulder, sword, watch

The most frequent associate to *ruka/рука/arm* was *noga/нога/leg* which is considered to be an antonym in terms of human body, based on the contrast of the upper and lower body. Also, hyponyms to the stimulus were used *prst/палец/finger* and *šaka ('fist'), hand* appeared in correlation. As one can observe, all associates from the centre were human body parts, and it does not surprise that in relation to them as hyperonym *tijelo/тело/body* appeared – it gave orientation frame for collected associates.

Associative field of stimulus *medvjed-медведь-bear*.

medvjed		
kernel	**centre**	periphery
медведь, bear	**šuma, Maša, med, životinja**	brlog, grizli, medo, šapa, dlaka, lov, Маша, mrki, napad, prijevod, riba, Rusija, slatko, smeđe, smeđi, uho, velik, zimski san
медведь		
kernel	**centre**	periphery
medvjed	**Маша, лес, мед, животное**	видра, заяц, лапы, звер, лисица, Maša, medo, медвежонок, Москва, мышь, Путин, Россия, рыба, сон, smeđe, шерсть
bear		
kernel	**centre**	periphery

medvjed	**animal, honey, forest, woods**	fluffy, grizzly, brown, cub, danger, fur, mauled, medo, mighty, mother, polar, practice, Putin, rabbit, sleep, strong, teddy, trap, uho, wolf, wood, yogi

When associating with this stimulus, our participants related the animal with its natural habitat *šuma/лес/forest, woods*, because that is how it is usually depicted in media and books. Adding to the traditional representation, they chose the word *med/мед/honey* because this animal translates as *'honey eater'* in both Croatian and Russian. In Croatian and English, the word *životinja/animal* appears as classification based on sense relations – hyponymy. A choice affected solely by popular culture appeared in Croatian and Russian – *Maša/Маша ('Masha')* – it is a result of the popularity of a precedent text, i.e. an animated series *'Masha and the Bear'* for children which is popular in both countries, originating in Russia.

Associative field of stimulus *sjeta-тоска-yearning*.

sjeta		
kernel	**centre**	periphery
	tuga, nostalgija	/, čemer, dom, jesen, ljeto, mrak, nevoljnost, nostalgia, Oliver Dragojević, prošlost, sjenica, suza, uspomena
тоска		
kernel	**centre**	periphery
	грусть, печаль, скука, /, слезы	čežnja, счастье, беда, bol, жалость, гибель, домь, daska, доска, желание, кровать, меланхолия, мучение, ностальгия, радость, сумка, темно, тревога, уныне, черная, эмоция
yearning		
kernel	centre	periphery
	longing, desire, sadness, wish	čežnja, love, lust, nostalgia, want, želja, craving, crisis, eagerness, emotion, home, homesickness, iščekivanje, morning, pain, regret,

		Seinfeld, sorrow, wanting, warm, will, wishing, žud

Responses central to this stimulus are somewhat descriptive of the concept itself – each of them captures the meaning of the concept in another way, so we could say that they are metonymic in their nature, if not even synonymic. These associates are *tuga/грусть, печаль/sadness*. Despite the fact that it only partially captures the meaning of the stimulus, it is the best out of all other emotions which have been listed. Due to the fact that it is mostly emotions that have been listed, we can say that three associates fall into category of coordinated hyponyms. *Nostalgija (‘nostalgia’)* in Croatian, alongside *tuga (‘sadness’),* describes the stimulus the best, even though the centre is the narrowest of the three. In Russian, materialization of the feeling is stated – *слезы ('tears'),* as well as *скука (‘boredom’)* which is culture-specific, related to the concept of ‘*the Russian soul’*. In English the centre is broader than the stimulus itself, since it includes *longing, desire* and *wish*, which are usually not necessarily related to something lost, but something wanted.

When we look at the periphery, we can notice a lot of associates in that category, which means that this concept is not stable in representation – it could be due to the fact that it usually has individual meaning to participants.

Associative field of stimulus *zlo-зло-evil*.

zlo		
kernel	**centre**	periphery
zlo зло	**dobro, vrag, pakao**	crno, loše, neprijatelj, nesreća, vještica, bol, crna boja, ljudi, maćeha, naopako, nemoć, nužno, papir, rogovi, Saruman, sotona, strah, trulo, vatra, žalost
зло		
kernel	**centre**	periphery
zlo	**добро, враги, черт**	дьявол, злость, тьма, ад, враг, Гитлер, доброе, доброта, дявол, змея, золото, комить, красный цвет, несчастье, плохо, правда, смерт, собака, страдание, страх, хорошо, crveno

evil		
kernel	**centre**	periphery
zlo	**good, devil**	bad, dark, /, black, cold, darkness, death, dog, fire, goodness, harm, hell, Hitler, mind, movie, people, pure, red, Satan, vile, witch

The most frequent response which was expected was *dobro/добро/good* because this stimulus usually evokes its sense relation antonym, as an archetype which exists from olden times. It is interesting to notice that even though participants had the noun form of this word, they decided to associate with adjectives, which means that they probably perceive it as an abstract quality and not a materialization. On the other hand, they have materialized evil in two forms – words *vrag/черт/devil* and *pakao ('hell')*; again, they used metaphorical representation of the concept. In Russian, the word *враги ('enemies')* appeared as a projection of evil on objects.

Associative field of stimulus *život-жизнь-life*.

život		
kernel	**centre**	periphery
жизнь life	**smrt, dug, sreća**	dijete, lijep, ljubav, beba, biljka, cesta, dar, duljina, iskustvo, kratak, more, nevolja, nije fer, proći, put, radost, rađanje, sjena, Sunce, trbuh, tuga, voda
жизнь		
kernel	**centre**	periphery
život	**смерть**	бытие, горькая, опыт, рождение, судьба, такая, век, время, долгая, долго, живот, искусство, короткий, люди, младенец, одна, одная, окончена, проклятая, put, radost, радость, сладкая, счастие, трудно, человек, человечество
life		
kernel	**centre**	periphery

život	**death**	beautiful, happiness, path, adventure, baby, blank, celebration, child, dead, eternal, eternity, experience, extraterrestiral, God, heaven, human, innocence, living, long, love, one, plant, short, travelling, water, wealth, white

Once again, archetypal opposition was dominant when it comes to this stimulus – *life-death* was the most frequent in all three languages – English and Russian have only that answer in the centre, whereas Croatian has incorporated a collocation *dug (‘long’)* and an emotion *sreća (‘happiness’)* in the concept. This concept has a very narrow centre, which means that the meaning could possibly be related in the minds of participants, but we cannot claim that decisively since our sample is not big enough to verify such claims.

Associative field of stimulus *iskustvo-опыт-experience*.

iskustvo		
kernel	**centre**	periphery
experience опыт	**rad, posao, znanje, umjetnost, godine, starost, život**	mudrost, brada, deda, иссукуство, nemam, neprocjenjivo, seksualno, spoznaja, sudbina, učitelj, vještina, vrijeme
опыт		
kernel	**centre**	periphery
iskustvo	**жизнь, работа**	жизненный, знание, исскуство, путешествие, /, бизнес, большой, вопрос, время, годы, жизни, iskusan, искусство, качество, мастерство, мудрость, память, помощ, практика, snaga, старость, старый
experience		
kernel	**centre**	periphery
iskustvo	**life, work, job**	old, travel, wisdom, beard, CV, destiny, expensive, hand, important, inexperience, journey, knowledge, money,

		past, proper, rich, school, skill, skydiving, value, znanje

Stimulus *iskustvo/опыт/experience* is an abstract concept, which means that it has a unique representation in every participant's mental lexicon and therefore it is not unsurprising that the periphery has an abundance of words, and the centre has a few. The centre is the broadest in Croatian, with English and Russian encapsulating only essential notions. Experience is usually connected to *work* and *life*, which are also the most frequent collocations obtained for this stimulus. Therefore, words *život/жизнь/life*, *posao/работа/work*, *job* make the essential features of this concept in English and Russian, with Croatian referring also to r*ad ('work'), znanje ('knowledge'), umjetnost ('art'), godine ('years'), starost ('elderliness')*. They are referring to the materialization of that abstract notion with words *rad, znanje ('knowledge'), umjetnost ('art')* and physical trademarks with *godine ('years'), starost ('elderliness')*.

Associative field of stimulus *sudbina-судьба-fate.*

sudbina		
kernel	**centre**	periphery
život судьба fate fatum	**kleta**	budućnost, fatalna, amor fati, chance, destiny, Edip, faith, gatanje, horoskop, iskustvo, karte, kraj, kugla, laž, ljubav, ne postoji, neizmjenjivo, nepoznato, određena, određenost, predosjećaj, put, raj, ruke, sijed, sloboda, slučajnost, spajanje, sreća, sretna, strepnja, sudba, tarot, teška, tragedija, vjera, zvijezde
судьба		
kernel	**centre**	periphery
sudbina sudba kleta	**жизнь, авось, будущее**	человек, любовь, /, горькая, дело, диля, дорога, život, злая, ирония, легко, не существует, нужно, одна, опыт, печаль, предопределение, роковая, роковой, связать, суеверия, человека, человеческая
fate		

kernel	**centre**	periphery
sudbina	**destiny**	God, hope, unknown, vjera, chance, cursed, death, fortuneteller, good, inevitable, justice, light, love, master, non-existant, passion, path, quote, twist, unavoidable, white

When it comes to the stimulus *sudbina/судьба/fate*, we have to notice that responses do not convey any significant interconnection to other concepts. For example, the only word that has appeared in English is *destiny,* which is in essence a synonym to *fate*, whereas in Croatian, a collocation has been proved the most popular– the adjective *kleta ('cursed')*. When it comes to Russian, we have a few interesting words: *жизнь (‘life’)* – it is a logical choice, and maybe even a hyperonym to *fate* because they are mutually conditioned in a way. Then *авось (‘off chance’)* – a Russian linguocultureme which is tightly connected to life and luck, and in the end – *будущее (‘future’)*, which gains ground only because fate is something that will be known to us only in the future.

Associative field of stimulus *rat-война-war*.

rat		
kernel	**centre**	periphery
war война	**mir, smrt, užas, vojska**	bitka, strah, tuga, zlo, bol, film, ljubav, mačevi, neprijateljstvo, nevolja, oružje, politika, stradavanje, tenk, top, vojnik
война		
kernel	**centre**	periphery
rat	**мир**	битва, отечественная, печаль, смерть, войско, krv, солдат, страдание, тревога, ужас
war		
kernel	**centre**	periphery
rat	**peace, death, gun**	tank, /, anger, army, battle, corpses, destroy, destruction, dirt, earth, end, evil, fight, horse, life, love, misery, oružje, pain, soldier, zlo

This stimulus is formed on the archetypal opposition between war and peace, two binary oppositions of human existence – hence, associates *mir/мир/peace* have been the most frequent in all languages. The Russian equivalent had the narrowest centre with only this one essential associate, whereas Croatian and English featured other responses related to conventional symbols and materialisation of *war*: *smrt/death* as direct consequence, i.e. hyponym to the concept, words *vojska ('army')* and *gun ('pistol')* represent metonymic relation to participation in war and in the end *užas ('horror')* represents emotions evoked by it. Thanks to the opposition this concept is based on, we can say that it is fully acquired due to the fact that the centres of all three equivalents are so narrow.

Associative field of stimulus *prijatelj-друг-friend*.

prijatelj		
kernel	**centre**	periphery
friend друг приятель prijateljica	**drug, sreća**	dobar, dobro, društvo, ljubav, oslonac, podrška, povjerenje, sigurnost, brat, Chandler, čovjek, dobrota, kava, Matko, najbolji, neprijatelj, pas, prijateljstvo, rođendan, ruka, srce, vječnost, zabava, zagrljaj
друг		
kernel	**centre**	periphery
prijatelj, друзья, подруга	**лучший, помощь, враг**	брат, дружба, любовь, счастье, ale noći i piće toči, знакомство, надежный, pomoć, prijaznost, собака, Тито, товарищ, человек
friend		
kernel	**centre**	periphery
prijatelj	**love, best, foe, fun, help**	enemy, family, honesty, ally, bond, college, comfort, company, false, fortune, friendship, happiness, home, Karlo, laugh, loyal, people, Ross, safety, support, warmth

The present stimulus, though it is a concrete noun, evokes a lot of different associates, as can be noticed in the periphery. The only associate that is central to more than one stimulus is *best/лучший*

which appears in both Russian and English – that is the collocation that is used most frequently with the stimulus. English and Russian also share the antonym to *friend* which is *foe/враг*, whereas Croatian has a partial synonym *drug* – a word which has a political connotation and meaning broader than *friend.* Other associates include emotions like *love, sreća ('happiness')*, *fun* and an essential "component" of a friend – *help*.

Associative field of stimulus *vrijeme-время-time*.

vrijeme		
kernel	**centre**	periphery
time время	**sat, prolaznost, novac 4**	dugo, nevrijeme, prolazak, prolazi, sunčano, brzina, brzo, kiša, leti, linija, oblak, pješčani sat, promjena, protjecati, rijeka, sunce, teče, teći, žurba
время		
kernel	**centre**	periphery
vrijeme	**часы, достаточно**	быстро, год, деньги, идет, летит, погода, течение, вовремя, вселенная, вытечь, денги, дождик, жизнь, и стекло, идти, лететь, линия, некогда, немного, ночь, пролетит, протекает, sat, сегодня, стекло, течет, тяжелое, уходящее, časak
time		
kernel	**centre**	periphery
vrijeme	**clock, money, passing**	flies, hour, life, place, space, continuum, day, endless, expendable, fly, frame, happening, infinity, lack, lifetime, long, out, passing by, period, quick, short, shortage, tight, waste

The first association to *time* is *sat/часы/clock* as a symbol of the concept. Also, associates *money/novac* appears as a metaphoric connotation which indicates the connection. The concept of *time* is perceived linearly, at least in Croatian and English, according to our participants and their

response *prolaznost/passing*. All responses are paradigmatic except for *достаточно ('enough')* which is in syntagmatic relation to the stimulus because it modifies the present noun.

Associative field of stimulus *duša/душа/soul.*

duša		
kernel	**centre**	periphery
soul душа	**srce, čovjek**	Bog, dobra, duh, magla, bol, crno, duhovnost, Iva, lebdjeti, ljubav, mir, nematerijalno, nevidljivo, osoba, religija, smrt, spiritualno, sreća, sredina, srodna, svjetlost, tijelo, toplina, um, unutrašnjost, vječnost, vjera, vjernost, vrag
душа		
kernel	**centre**	periphery
duša душа	**сердце, тело, любовь, моя**	дух, в душу, вера, веселая, внутренний мир, грехи, дох, небо, невидимое, потусторонно, родственная, русские, самое главное, семья, смерт, собака, сосиски, tijelo, человека, черт
soul		
kernel	**centre**	periphery
duša	**body, mate, heart, spirit**	death, ghost, purity, life, alive, bind, colour, destiny, eternal, eternity, faith, forever, free, God, kindness, mortality, peace, sad, searching, sister, soulmate, white, warmth

The stimulus *duša/душа/soul* had to be embodied somehow as an abstract concept – our participants offered associates *čovjek, тело/body* as "containers", i.e. hyperonym. In relation to body, they have offered *srce/сердце/heart* in all languages also, but probably as an idiom which can be frequently heard. Only *čovjek ('human')* and *srce ('heart')* make the centre in Croatian, but Russian and English centres are broader. Russian includes a collocation *моя ('my')* and an emotion *любовь ('love')* also, whereas English includes a collocation *mate* and a partial synonym *spirit.*

Associative field of stimulus *majka-мать-mother*.

majka		
jezgra	**centar**	periferija
мать mother мама mati	**otac, ljubav**	dijete, djetinjstvo, dom, obitelj, briga, caretaker, dobra, kći, nepoznanica, osmijeh, parfem, roditelj, sigurnost, tata, toplina, Vesna
мать		
kernel	**centre**	periphery
mama, мама	**отец, любовь, дом, родина, папа**	бабушка, Горький, Горького, dijete, добрая, дочь, моя, музыка, семья, сердце, sigurnost, улыбка
mother		
kernel	**centre**	periphery
majka, mama	**love, father**	brother, caretaker, caring, child, comfort, daughter, family, good, home, land, nature, nurture, safe, smile, Theresa, Vesna, warmth, woman

This stimulus also has a narrow centre in all three languages, with English and Croatian sharing the centre which consists from associates *otac/отец/father* and *ljubav/любовь/love*, but Russian has associates *дом ('house'), родина ('homeland')* included also. Mother can be seen as an essential part to every *дом ('house')*, whereas the collocation with *родина ('homeland')* carries Russian culture-specific information related to the Russian sense of love for their homeland and the feeling of care and protection they feel towards it. This relationship is unique in our opinion because this personification is very intimate and strong, not a cliché – they have strengthened that relationship through all the wars and political systems. It exists on the level of the ordinary man, not necessarily the system. It witnesses the pure connection to the place where one was born, to both nature and nurture. The associate *father* and its equivalents are seen as opposites to the stimulus, whereas *love* is an emotion most frequently connected to the concept.

Associative field of stimulus *novac-деньги-money*.

novac		
kernel	**centre**	periphery
money pare	**sigurnost**	dolar, kuna, luksuz, ovce, posao, zeleno, banka,

деньги		bogatstvo, dolari, dug, emoji, financije, gotovina, imovina, kupiti, lagoda, moć, nema, neophodno, novčanica, nužno zlo, odjeća, papir, pohlepa, porez, problem, prolaznost, putovanje, skupo, stvari, vrijeme, zašto, zlato, život
деньги		
kernel	**centre**	periphery
novac penezi	**работа, имущество**	богатый, бумага, зеленый, золото, /, бабки, бабушка, дорогое, zeleno, зеленое, зеленые, zlato, карман, копейка, кошолек, материально, монеты, не хватает, нет, нужные, пафосный, перевод, платить, путешествие, Путин, работать, рубаль, рубли, сила, успех, финансы, экономить
money		
kernel	**centre**	periphery
novac	**green, gold**	bank, capitalism, cash, coins, dollars, earn, rich, security, time, wealth, work, ATM, candy, earnings, importance, job, life, luxury, material, paper, power, spend, unnecessary, valuable, wallet

The present stimulus obviously has a very unstable centre which is visible from frequencies of central associates. Adding to this, the periphery is abundant with associations of various categories, even though most of them could share semantic categories with central associates. Each of languages gives advantage to something else – Croatian associate *sigurnost (‘safety’)* is somewhat loosely connected to the stimulus, in a metaphorical way – since it implies the quantity of money which is needed to be *'secured'*. On the other hand, Russian centre consists of *работа ('work')* and *имущество ('wealth')*. The relation is not straightforward, but rationally, *деньги (‘money’)* could be a superordinate to *работа (‘work’)* because the meaning of *работа (‘work’)* includes money, whereas *имущество (‘personal property’)* could be superordinate to *деньги (‘money’)* because

they are essential for wealth. Russian, in contrast with the rest represents the stimulus more directly – it closely depicts it with the associate *green* referring to the colour, and materializes it with the associate *gold.*

Associative field of stimulus *domovina-родина-homeland*.

domovina		
kernel	**centre**	periphery
homeland, родина, partia	**Hrvatska, država, zemlja**	dom, ljubav, moja, srce, borba, jedna, karta, kuća, ognjište, patriotism, patriotizam, prošlost, rad, razočaranje, Thompson, Tuđman, zajedništvo, zastava, zeleno
родина		
kernel	**centre**	periphery
domovina	**Хорватия, мать, страна, дом, Россия**	большая, война, держава, защищать, zemlja, земля, любовь, moja domovina, отец, памятник, патриотизм
homeland		
kernel	**centre**	periphery
domovina	**country, Croatia, security**	grass, flag, defense, founding fathers, home, Hrvatska, map, mother, nation, nostalgia, patriotism, people, state, TV, TV-show

The stimulus *domovina-родина-homeland* has a stable representation in the mental lexicon of participants – throughout all three languages, they have given the same central associates – namely *Hrvatska/Хорватия/Croatia* alongside *država, zemlja/страна/country*, which are essential features of the stimulus. In Russian, associates *мать (‘mother’), Россия (‘Russia’), дом (‘house’)* are added as a culture-specific symbol of the country and in English *security* has the same role. Associates *država (‘country’), zemlja (‘land’)* are quasisynonyms to *domovina* in Croatian, just like *страна* (‘*country*’) and *country* in English and Russian because every homeland is a country, but not every country is somebody's homeland. All other associates, except for the names of states are collocations used in combination with the present stimulus.

Overall, the results of this cross-analysis of questionnaires extend our knowledge of associative fields of these particular concepts – we have noticed that the associative fields of the given concepts overlap in most cases – they evoke approximately the same associates, with only a smaller majority being deviant or specific in meaning. Participants have always proposed items from the semantic field in which the stimulus word was, and this corroborates the sense relation theory since most of the words in the centre were connected by various sense relations. Also, the rule of thumb is that the associates of which the centre is consisting are always in a paradigmatic relationship to the stimulus, except for stimuli *evil, život ('life'), sudbina ('fate'), время ('time')* and *money*, which included syntagmatic associates as well.

The distribution of the most frequent responses collectively across all three languages was the same in the following stimuli: *ruka ('arm'), zlo ('evil'), život ('life'), rat ('war'), vrijeme ('time')*. The similarity present only in Croatian and Russian is visible not only in the previously mentioned stimuli, but also in *medvjed ('bear'), sjeta ('yearning'), subina ('fate'), duša ('soul'), domovina ('homeland')*. Even though they are neither etymologically, nor culturally related, some of the most frequent associates were shared between Croatian and English as well: *kuća ('house'), majka ('mother')*. Surprisingly, there were some stimuli like *prijatelj ('friend')* and *novac ('money')* which did not share the most frequent associates, and the ones that showed the connection between English and Russian – *iskustvo ('experience')*, for example. This vaguely conveys the process of conceptualization, but nonetheless implies that this particular combination of languages and this particular sample of participants perceive the tested concepts in relation to each other.

In addition, it is important to notice that in research conducted by van Hell and de Groot (and represented in the chapter *Theoretical background*) conceptual representation of nouns in bilingual mental lexicons varies depending on their type (concrete or abstract type) – they claim that concrete nouns more often evoke translations, cognates more often share a conceptual representation in opposition to abstract nouns and noncognates due to the fact that meanings of abstract words and their translations tend to be less similar than those of concrete translational pairs (van Hell & de Groot, 1998, p. 194). The results obtained in this research refute these claims – abstract nouns and concrete nouns do not differ when it comes to giving translations as answers. We strongly hold that foreign language equivalents are not translations nor should be seen in that way because there is no evidence of lexical processing in the process of association – we cannot

say that they translate between L1 and L2/L3 before giving an associate. It just happens to be the salience of the connection between the words, which can be indicative of the connection of languages themselves, even though we cannot claim that because our research was limited when it comes to sample size.

And interestingly, van Hell and de Groot's findings show that cognates share a conceptual representation, whereas noncognates are stored in a language-specific conceptual nodes – when we are trying to acquire a cognate, we just map a new visual form to the already existing meaning, and on the other hand, when we are trying to acquire a noncognate, we do not have a similar form already stored and have to create it, which could potentially prevent L2 learners from mapping onto already existing translation form in L1. However, there are limits to how far their idea can be taken. It has been proven in our research that even noncognates have a high rate of overlapping between their noncognate translation equivalents, e.g. ye*arning*, *experience*, *homeland* – they are all conceptualized in the same way across all tested languages, sharing the semantic categories and stable conceptualizations, based on our sample.

The broadness of semantic bands created by elicited responses to our stimuli shows how compressed, i.e. generalized, opposing to dispersed, i.e. idiosyncratic, the meaning of the stimulus is. The narrower the band, the greater the expected overlap in concepts and vice-versa. This should then result with cognates and concrete words having fewer different responses and noncognates and abstract words having more varied responses. We will now try to validate these statements in detail. Simply by listing the tested stimuli according to the number of different responses in the ascending order (only the Russian equivalents; based on the typological closeness of Russian and Croatian), we got the following sequences:

Croatian: *kuća ('house'), ruka ('arm'), sjeta ('yearning'), iskustvo ('experience'), majka ('mother'), medvjed ('bear'), vrijeme ('time'), domovina ('homeland'), zlo ('evil'), život ('life'), prijatelj ('friend'), rat ('war'), duša ('soul'), novac ('money'), sudbina ('fate')*

English: *arm, house, homeland, mother, fate, evil, experience, war, friend, yearning, life, soul, time, money.*

Russian: *война ('war'), родина ('homeland'), друг ('friend'), мать ('mother'), рука ('arm'), медведь ('bear'), опыт ('experience'), душа ('soul'), зло ('evil'), тоска ('yearning'), жизнь ('life'), время ('time'), дом (‘house’), судьба (‘fate’), деньги (‘money’).*

Mean of all stimulus words: *arm, homeland, mother, house, war, yearning, experience, bear, friend, time, life, fate, money.*

To revise – according to van Hell and de Groot, cognates and concrete words should all be placed before noncognates and abstract words, but this does not add up for one simple reason – the stability of representation. If there is a firmly stated principle according to which a concept is formed, the type of the noun is unimportant. For example, an abstract and noncognate stimulus *rat-война-war*, which is formed thanks to the archetypal opposition war-peace and cultural influence of Dostojevskyj's novel has one of the lowest numbers of different responses, and therefore it comes forward, even though it is placed in the unfavourable category. On the other hand, stimuli like *sudbina-судьба-fate* and *novac-деньги-money* fall in the end with the most diverse array of responses because they cannot have a stable centre due to the fact that they have unique representation in each participant's mental lexicon.

We are now going to touch upon other peculiarities we have captured in our analysis across all three languages, or specific stimuli.

The first thing that can be noticed when inspecting the data collected from *Associations questionnaire* is that all Croatian stimuli (except for *sjeta (‘yearning’)* which evokes only the Russian correspondent) evoke both their English and Russian synonym correspondents. In all stimuli-words English equivalents are always more frequent that the Russian ones. Stimuli *ruka (‘arm’), iskustvo (‘experience’), sudbina (‘fate’), domovina (‘homeland’)* have the same frequency of Russian and English equivalents, stimuli *kuća (‘house’), zlo (‘evil’), rat (war’), prijatelj (‘friend’), vrijeme (time’), duša (‘soul’)* and *novac (‘money’)* have higher frequency of English equivalents, whereas stimuli *majka (‘mother’), život (‘life’), sjeta (‘yearning’), medvjed (‘bear’)* have higher frequency of Russian equivalents. It is interesting to observe that stimulus *sudbina (‘fate’)* evoked also Latin equivalents (*fatum, amor fati*), being the only stimulus in which that happened.

Furthermore, English stimuli evoke Croatian equivalents throughout the paradigm, but Russian equivalents are never given as replies. It is interesting to notice that only in English the word *God* appears as a reply to three different stimuli – *fate, soul* and *life*. In Croatian, the same reply is given only for the stimulus *duša ('soul')*.

When it comes to peculiarities perceived only in specific stimuli, the stimulus *медведь ('bear')*, was the only stimulus to which participants replied by naming other animals. Secondly, stimulus *vrijeme ('time')* has a polysemic meaning only in Croatian – participants have ascribed associates which were related both to the meaning of time period and weather conditions, whereas in English and Russian that was not the case on such a large scope. Thirdly, throughout all three languages only certain stimuli evoked proper names. Those were stimuli *bear* and *медведь ('bear') with Maša, Маша ('Masha')*, *evil* (*Hitler, Satan*, *Saruman*), *fate*, *friend*, *soul*, *mother* and *homeland*. In English two more were added – *life* and *yearning* (*God*), and in Russian *деньги ('money')* (*Путин ('Putin')*). Though one could argument that the replies were idiosyncratic, we cannot omit the pattern connected to personification and embodiment of the given stimuli – e.g. *Hitler* and *Satan* appeared as replies to the stimulus *evil*, *Hrvatska ('Croatia')* was evoked related to *homeland*, *Tito* and *Theresa* to *friend* and *mother*, *Oedipus* connected to *fate* and *Seinfeld* connected to *yearning*.

As expected, in the Russian questionnaire Croatian equivalents appear in all stimuli, and English is not present as a reaction at all. It is important to mention that within this third series of replies, namely, the Russian version, a lot of spelling mistakes are present, e.g. *смерт, денги, дябол, счастие*, *звер*, *помощ*, *домь*, *исскуство* as well as some words which do not exist in dictionaries of Russian: *видра, ногт, комить* and so on. Out of 15 stimuli, six of them have not been given an answer by one or multiple participants: *опыт ('experience'), судьба ('fate'), деньги ('money'), жизнь ('life'), дом ('house'), тоска ('yearning'*), with *тоска ('yearning')* being the only stimulus which has not been replied to by four participants.

Moreover, there are numerous replies which could be classified as clang association – e.g. among replies to stimulus *тоска* (transliterated as *'toska') ('yearning')*, words *daska ('plank')*, *доска (transliterated as 'doska') ('blackboard')* were found, which implies that not all the participants have acquired that word still and that they relied on phonological features of the word instead of meaning. Alongside this, false cognates appeared in responses to the stimulus *experience*, i.e. *опыт ('experience') – исскуство, искусство* which would, once it would be transliterated into

the Latin script (‘iskusstvo’), in Croatian mean ‘*experience*’, but in Russian it means ‘*art*’; the same situation can be spotted in stimulus life, i.e. *жизнь* – the reply that appeared was *живот* (transliterated as *‘život’*) meaning ‘*life’* in Croatian and *‘stomach’* in Russian.

6.3. Idiosyncratic responses

As far as idiosyncratic responses are concerned, i.e. responses given by participants only once, we plan to inspect them in order to see whether or not they contain some culturally dependent information. These responses seem to be discarded or overlooked in most cases because they are far from the kernel of the concept. In our opinion, if considered as a whole, they might shed light on additional nuances of knowledge and conceptualization when analysed accordingly.

In our findings, idiosyncratic responses are usually closely related to the stimulus word, but they are context dependant and they do not bear the essential information needed to define the concept in all contexts and they are hence placed in the periphery of the associative field of a concept. As it can be seen on our previous lists, they usually represent a collocation, a part belonging to the whole, or a symbol of sort, which is still meaningful.

We have noticed that even though most of the given idiosyncratic responses are of pure linguistic nature, there are still some “leftover” pieces of meaning which can be perceived as bearing cultural information. The nature of this pieces of information are not language specific per se, but they do show that information primed or acquired in foreign languages does break the imposed boundaries among languages, implying that this is shared knowledge in our mental lexicon. This shared knowledge is in fact encyclopaedic knowledge, related to things we know about the world. For example, responses like *Chandler* (to *prijatelj*), *Maša (‘Masha’)* (to *медведь ('bear')*), *Saruman* (to *zlo*), *Theresa* (to *mother*) shows the impact of popular culture on concepts across all three languages. There is no other explanation than that to the question why concepts like *Chandler* and *Saruman* which belong to Angloamerican culture, or *Maša (‘Masha’)* which belongs to Russian culture would be evoked by stimuli presented in a language other than the original. Also, *Maša (‘Masha’)* appears as an answer to *medvjed (‘bear’)* and *медведь (‘bear’)* respectively, and in both stimuli the answer can be found written in both Latin and Cyrillic scripts, which obviously shows the cultural influence on the concept.

There is still a lot of research required to find out if there is a grounded pattern in idiosyncratic responses and what are the average semantic categories which appear there, but we only wanted to make this more prominent because of the potential hidden in this particular niche of associative research.

6.4.Linguistic culturology comments

As we already mentioned, Croatian and Russian languages are both of Slavic origin, and it had been proven in previous research done by primarily Russian linguists (e.g. Ufimtseva compared Russian to English, as well as other projects that dealt with Slavic nations specifically – *Славянский ассоциативный словарь ('The Slavic Associative Dictionary')*) that Slavic nations associate in the same or at least similar way. This work contributes to the existing knowledge about the way in which the mental lexicon works in Slavic languages by providing evidence of the way in which Croats associate, (at least for indicative purposes, since there are certain limitations to this research). Considering that Croats have so far not partaken in such research, we have incorporated in our experiment words which have been distributed and tested among other Slavic nations to find out if the similar mechanism extends to Croatian minds.

After the completion of semantic and associative analysis, we have decided to give comments based on linguistic culturology theory. All responses are included.

We have chosen to categorize our responses according to associative fields which have been formed within the pool of our participants' responses to ease the analysis of elements which are specific to linguistic culturology. We are going to present tables for each stimulus with all responses categorized within the extracted topics. This method has been adapted from Barčot, who says that “due to the fact that in associative lexicography an associative field consists from all responses collected during the experiment – when the participants react to a specific stimulus by giving their own associates, in this scientific paper [*Lingvokulturologija i zoominska frazeologija*] an associative field consists only from responses collected by the abovementioned method, later thematically grouped” (Barčot, 2017, p. 86).

Our systematization of the obtained answers has resulted in numerous categories, some of which have, as a rule, appeared in all equivalents of a concept, showing similarities in the way concepts

were constructed by our participants. As mentioned above, responses have been thematically grouped in this categorisation.

Conceptual representation of the stimulus *kuća-house-дом*.

kuća	**house**	**дом**
home: dom, toplina, toplo **family**: obitelj, mama, roditelj, tata **living facility**: house, zgrada **positive feeling**: sigurnost, ljubav **furnishing**: tepih **part of house**: krov **environment**: jezero **building process**: izgradnja **food**: jabuka	**positive feeling**: peace, safety, warmth **home**: home, dom, household **family**: mama, family **part of house**: roof, brick, window **living facility**: building, kuća **environment**: yard, countryside **animal**: mouse **food**: bread	**family**: семья, мать, фамилия **living facility**: квартира, дом, здание, kuća, дача, домик, жилье **positive feeling**: любовь, обеспеченность, тепло, теплота, уютный **homeland**: родина, domovina **environment**: деревня **distance**: далеко **part of house**: крыша, кухня, очаг **attribute**: тяжелый **animal**: собака **quantity**: куча **stage of life**: djetinjstvo **household**: хозяин, хозяйство, домохозяйка **state of being**: готовы **nature:** огонь

The first stimulus had evoked various categories of responses, with descriptive information and emotional stances toward it being the most abundant. Descriptive information check majority of boxes for componential analysis – responses include categories like *living facility*, *part of house* and *environment* across all three languages (with *furnishing* and *building process* added in Croatian) which describe the extralinguistic world, with *positive feelings* expressing emotional stance toward the stimulus, probably because of the fact participants included *family* in the picture, which automatically changes the concept and turns it into *home*. This shift in meaning was rather frequent, which indicates that these two concepts overlap. The Russian equivalent has broader meaning than English and Croatian one because categories *household*, *stage of life*, *attribute* and *condition* were added. To add, in Russian categories we have a few specific words, like *дача* (*'a Russian vacation house outside of the city'*), *уютный* (*'cosy'*), *кухня* (*'kitchen'* – the most important

part of the house), *очаг* (*'the part of the house where the fireplace is'*). These words are important because they express the aesthetic information about Russian houses, i.e. homes – hospitality and close-knit community. There is one more category that in our opinion conveys culture-specific information – the category *state of being: готовы (‘ready’)* – it is possible that this is a reference to a salute used during World War II by *the Ustaše movement*.

Conceptual representation of the stimulus *ruka-arm-рука*.

ruka	**arm**	**рука**
human body: noga, čovjek, tijelo, arm, ruke, prst, šaka, dlan, hand **animal body**: šapa **accessory:** prsten **object**: stvar, kemijska **side**: desna	**human body**: body, leg, hand, finger, ruka, shoulder **accessory**: watch **weapon**: fire, firearm, guns, oružje, fire, sword **side**: left **length**: long **condition**: possibility	**human body**: нога, палец, тело, ruka, кожа, ладонь, ногт, ножка, персть, душа **accessory**: перчатка **object**: ручка **profession**: армия, строитель, дело **condition**: возможность **side**: десница **friendship**: помощ, prijatelj

Taking into consideration that the stimulus *ruka-arm-рука* is semantically based on an archetypal opposition, responses for this stimulus were majorly conditioned by that opposition *ruka-noga*, i.e. *arm-leg*, hence the majority of responses are related to the category *human body* in all three languages (with the exception of the opposition to *šapa (‘paw’)* which is an animal body part). Also, *accessories* were mentioned as way of motivating the semantic representation – *prsten (‘ring’), watch, перчатка (‘glove’),* just like and object we usually hold in our hand – *kemijska/ручка (‘pen’).* Interestingly enough, this stimulus was metaphorically extended in foreign languages – e.g. in English it was connected to *weapons*, whereas in Russian to friendship (which may be connected to the idiom *протянуть/протягивать руку помощи (‘to give a hand’)*) and professions – *строитель (‘builder’) – a man who works with his hands*. Moreover, we could say that the mentioned *side – desna (ruka) (‘right (hand’))* – also reflects *a person of outmost trust*, or *десница (‘the right hand’) – 'governance'*. Conceptualization is similar in all three languages, with Russian having a slightly broader meaning.

Conceptual representation of the concept *medvjed -bear-медведь*.

medvjed	**bear**	**медведь**

popular culture: Maša **habitat**: šuma **animal body**: dlaka, šapa, uho **type of bear**: grizli, mrki, smeđi **attribute**: smeđe, velik **food**: lov, riba, med, slatko **danger**: napad **hibernation**: brlog, zimski san **toy**: medo **Russia**: Rusija **object**: prijevod **animal**: životinja, bear	**popular culture**: yogi **habitat**: forest, woods, wood **animal body**: fur, uho **type of bear**: grizzly, brown, polar, cub **animal**: wolf, rabbit **food**: honey **danger**: mauled, danger, trap **hibernation**: sleep **toy**: medo, teddy **attribute**: fluffy, mighty, strong **Russia**: Putin **parent**: mother **animal**: medvjed, animal **activity**: practice	**popular culture**: Маша, Maša **habitat**: лес **animal body**: лапы, шерсть **type of bear**: медвежонок **animal**: medvjed, видра, зайц, мышь, звер, лисица, животное, рыба **toy**: medo **Russia**: Москва, Путин, Россия **food**: мед **hibernation**: сон **attribute**: smeđe

This stimulus has the same conceptualization in all three languages. Our participants have given preference for extralinguistic information, i.e. descriptive information when it comes to this stimulus – they have described its looks and characteristics across all three languages in categories *type of bear* and *attribute*, as well as *danger*. In the category *animal body*, they have isolated *dlaka/fur/шерсть* as the most representative part of a *bear*. When it comes to scientific information, participants have connected the bear with other *animals* that can be found predominantly in its *habitat*, which was also mentioned. Additionally, they know about *hibernation* and what kind of *food* it eats, with *med/honey/мед* being the most frequent response. The most interesting responses were related to the fact that participants perceive this stimulus as a symbol for various things – e.g. in every language a connection with Russia was made (*Rusija ('Russia'), Putin, Москва ('Moscow'), Путин ('Putin'), Россия ('Russia')*) because the *bear* is the national animal of Russia, used in cartoons, articles and dramatic plays as early as the 16th century, as can be found on the Internet. Also, responses *medo ('teddy')* and *teddy* are popular names for plush toys in Croatian and Anglo-Saxon culture (not necessarily bear-shaped). To add, when it comes to popular culture, responses *yogi* and *Maša*/*Маша ('Masha')* stand out because they are obvious connections to children's TV-shows – *Yogi Bear* was a popular TV-show in America, whereas *Машенька и Медведь (Masha and the Bear')* is a popular show in Russia. Both of these cartoons were screened in Croatia, so it is not surprising that participants associated with them.

Though our results have to be interpreted with care, we think that they are indicative of the fact that our participants built the representation of this concept in foreign languages mostly based on their L1 linguistic picture of the world. For example, the low correlation for the stimulus медведь *('bear')* shows that they have assigned to it categories from the Croatian linguistic picture of the world and not Russian, whereas мать *('mother')* was the closest to the Russian representation with the majority of answers being similar to the Russian linguistic picture of the world.

Conceptual representation of the concept *sjeta-yearning-тоска*.

sjeta	**yearning**	**тоска**
negative feeling: čemer, nevoljnost, тоска, tuga **season of the year**: jesen, ljeto **location**: dom, sjenica **darkness**: tama, mrak **nostalgia**: nostalgija, suza, prošlost, nostalgia, Oliver Dragojević, uspomena	**negative feeling**: sadness, emotion, pain, regret, sorrow **positive feeling**: love **popular culture**: Seinfeld **time of the day**: morning **homesickness**: nostalgia, home, homesickness, warm **desire**: desire, wish, čežnja, want, longing, lust, želja, craving, iščekivanje, eagerness, wanting, will, wishing, žud, crisis	**negative feeling**: грусть, печаль, скука, жалость, эмоция, тревога, уныне **positive feeling**: счастье, радость **darkness**: темно, черная **pain**: слезы, bol, гибель **desire**: čežnja, желание **nostalgia**: меланхолия, ностальгия, домь, беда, мучение **object**: daska, доска, кровать, сумка

The information related to this stimulus is mostly emotional, but it differs in all three languages. Even though negative connotations in the category *negative feelings* are shared, other nuances of meaning are coded somewhat differently. In Croatian, participants associated with nostalgia mostly, but they also offered *seasons of the year* and *darkness* as the most prominent features. In English, participants equated this concept with *desire* and *homesickness,* but also *positive feelings* of love. On the other hand, Russian equivalent is closer to Croatian in conceptualisation since it has *nostalgia* and *darkness* coded, but it is broader because *pain* and *positive feelings* were associated with *тоска ('yearning')* too. Even though emotional information is predominant, there are two instances of motivation for this feeling – a Croatian singer-songwriter *Oliver Dragojević* and a popular American TV-show *Seinfeld*. In our opinion, the English equivalent is conceptualised in a different manner; with a positive connotation related to physical needs, as exemplified in the category *desire*: e.g. lexemes *wish*, *want*, *lust, craving, želja ('wish'), žud* ('*desire')*imply that something tangible is the object of desire – body, food, etc. which is not the

case in Croatian and Russian, where only sorrow and nostalgia about something unknown is expressed. When this is considered, along the fact that there were 4 omissions in the associative field of *тоска ('yearning')*, we can say that this representation is unstable and that the primary connotation changes from language to language.

Conceptual representation of the concept *zlo-evil-зло*.

zlo	**evil**	**зло**
goodness: dobro, ljudi **colour**: crna boja, crno **negative feeling**: bol, nesreća, nemoć, žalost, strah **attribute**: loše, naopako, trulo, nužno **negative character**: vještica, maćeha, neprijatelj, Saruman, sotona, vrag **hell**: pakao, evil, vatra, зло **body part**: rogovi **object**: papir	**goodness**: goodness, good, pure **negative character**: Satan, Hitler, witch, devil **negative feeling**: bad, cold **attribute**: vile **colour**: black, dark, red **animal**: dog **hell**: fire, darkness, hell, death, harm, zlo **body part:** mind **popular culture**: movie	**goodness**: добро, доброе, правда, хорошо **negative character**: враги, враг, черт, дьявол, Гитлер, дявол **aminals**: змея, собака **hell**: зло, ад, страдание, смерт **negative feeling**: злость, страх, несчастье, плохо, **colour**: тьма, красный цвет **object**: золото, комить

The present stimulus, which is based on the archetypal opposition of *good* and *bad*, primarily evoked *negative feelings*, i.e. negative emotional stances, but also physical representations of *zlo-evil-зло*. Conventionally, this stimulus is in popular culture represented with the *colour* black or red and usually evokes pictures of *hell – fire* and *death* as a part of our world knowledge based on mythological and religious information. It is interesting that a great deal of participants decided to personify evil in *negative characters* by giving answers like *vještica, maćeha, neprijatelj, Saruman, sotona, vrag, Satan, Hitler, witch, devil, враги ('enemies'), враг ('enemy'), черт ('devil'), дьявол ('devil'), Гитлер ('Hitler'), дявол* and *animals* associated with negative characteristics in Christianity – *змея ('snake'), собака ('dog')*. This concept is conceptualised in the same way across all three languages and is stable in its representation overall thanks to the abovementioned well-known archetype.

Conceptual representation of the stimulus *život-life-жизнь*.

život	**life**	**жизнь**

happiness: sreća, ljubav, radost **length**: duljina, kratak **path**: cesta, put **activity**: proći, iskustvo **pregnancy**: dijete, beba, life, жизнь, rađanje, dar **attribute**: dug, lijep **negation**: nije fer **bad luck**: nevolja **nature**: biljka, more, voda, sjena, Sunce **body part**: trbuh **death**: smrt, tuga	**happiness**: život, beautiful, happiness, celebration, wealth, love **nature**: water, plant **attribute**: short, eternal, one, living, extraterrestiral, long, blank **pregnancy**: baby, child, život **heaven**: God, heaven, eternity, white, innocence **experience**: adventure, path, travelling **death**: death, dead	**happiness**: radost, радость, счастие **pregnancy**: život, рождение, младенец **death**: смерть **experience**: искусство, опыт, бытие **attribute**: горькая, такая, долгая, долго, короткий, одна, одная, окончена, проклятая, сладкая, трудно **time-frame**: век, время **path**: put, судьба **humans**: люди, человек, человечество **body part**: живот

The most frequent response to the stimulus *život-life-жизнь* was *death* because the opposition *life-death* is an analogue to the opposition *good-evil*, which could originate in folklore traditions or even religion. As we can see here, religious information – *heaven* is coded only in the equivalent *life*. Opinion about *life* has been expressed in the category *attribute* in all three languages. When it comes to metaphors, life is perceived as a *path* by our participants and this metaphor can be found in a Croatian saying *"Život nije trka, već putovanje u kojem treba uživati, na svakom koraku." ('Life is not a race, it is a journey – you have to enjoy every step of it')*, whereas in Russian a well-known song *Жизнь-дорога ('Life is a journey')* by Александр Назароб represents this concept shared in conceptualisation between Croatian and Russian. (In English there is a connection to *journey* which was not mentioned here.) Participants generally perceive this concept in a positive light, with categories *pregnancy*, *nature* and *trbuh/живот* ('*stomach'*)as a symbol of new life, i.e. an opposition to death, since by birth new life is created which could be a remnant of pagan worldview.

Conceptual representation of the stimulus *iskustvo-experience-опыт*.

iskustvo	**experience**	**опыт**
type of experience: seksualno, neprocjenjivo **negation**; nemam **time**: vrijeme	**negation**: inexperience **result of experience**: journey, iskustvo, knowledge, destiny,	**type of experience**: большой, жизненный, жизни **result of experience**: жизнь, искусство, качество,

result of experience: umjetnost, опыт, život, иссукуство, sudbina **work:** posao, rad, znanje **people with experience**: učitelj, deda **sign of experience**: brada, starost, mudrost, vještina, experience, godine, spoznaja	**type of experience**: life, work, travel, expensive, past, proper, rich, school, skydiving, important **sign of experience**: wisdom, beard, old **work**: job, CV, money, znanje, value, skill, knowledge **body part**: hand	практика, память, iskusan, путешествие **sign of exprience**: исскуство, iskustvo, мастерство, мудрость, snaga, старость, старый **work**: бизнес, работа, знание **time-frame**: время, годы **help**: вопрос, помощ

To conceptualise this stimulus, participants have chosen to represent various denotative information, since this concept is intangible and perceived personally. They have stated the *type of experience*, the *result of experience* and *sign of experience* in all three languages, and decided to associate it with *work* and *people* who have gained experience (in Croatian at least). From their perspective, *work* is the most prominent feature of experience, with *wisdom* and *beard* being the most prominent signs of experience. This conceptualisation has proven to be stereotypical, with no major deviation from it, or culture-specific information evoked.

Conceptual representation of the stimulus *sudbina-fate-судьба*.

sudbina	**fate**	**судьба**
fortune telling: budućnost, gatanje, predosjećaj, ruke, neizmjenjivo, određenost, horoskop, karte, tarot, kugla, život, laž, zvijezde, spajanje **popular culture**: Edip **type of fate**: destiny, chance, tragedija, amor fati, fatum, судьба **negation**: nepoznato, ne postoji **experience**: iskustvo, sijed **belief**: faith, fate, sudba, ljubav, vjera, sloboda, raj, slučajnost, sreća **attribute**: teška, sretna, određena, kleta, fatalna **uncertainty**: kraj, strepnja, put	**belief**: death, God, hope, passion, love, vjera **negation**: non-existent **fortune telling**: fortuneteller **type of fate**: destiny, sudbina, chance **uncertainty**: path, inevitable **attribute**: cursed, unknown **God**: light, white, good, justice, master	**negation**: не существует **type of fate**: sudba kleta, человека, нужно **fortune telling**: sudbina, будущее, жизнь, život, предопределение, суеверия **positive feeling**: любовь **uncertainty**: авось, дорога **attribute**: горькая, злая, одна, роковая, роковой, человеческая, легко **experience**: опыт **negative feeling**: ирония, печаль **activity**: связать, дело **object**: человек, диля

We can notice a big discrepancy in the broadness of conceptualisation which means that the conceptualisation is not stable – English has the narrowest representation, and Russian slightly broader representation than Croatian, despite the fact that they are conceptualised in a very similar way. The most prominent category in this conceptualisation is *fortune telling* for both Croatian and Russian, which was unexpected because it is in conflict with the Christian background our participants have. Only in English was religious connotation evoked in the category *God*. Except for *attributes* which share lexemes *kleta/cursed/роковая*, categories *uncertainty*, *belief* and *experience* have subverted content which implies that this concept is in reality more related to secular life than the religious one. Moreover, lexemes which corroborate this claim appear – e.g. *Edip* – in Sophocles' *Oedipus the King*, the theme of fate versus free will appears often throughout the play, and a Russian linguocultureme *авось (‘off chance’)* (probably from the idiom *'надеяться на авось' ('(to believe in) sheer blind luck'*) expresses Russian tendency blindly trust in sheer luck or count on a miracle. In addition, *negation* of the concept is also mentioned in all three equivalents, lessening the meaning and value of this concept, which goes hand in hand with the category of *negative feelings – печаль ('sadness')*, *ирония* (‘*irony’*) which is present in Russian. This could be indicative of the concept of *the Russian soul*, a culture-specific trait present in Russian relationship to *fate*.

Conceptual representation of the stimulus *rat-war-война*.

rat	**war**	**война**
weapon: mačevi, oružje, tenk,top **battle**: war, война, bitka **participant**: vojska, vojnik **consequence**: stradavanje, smrt, užas **negative feeling**: strah, tuga, bol **positive feeling**: mir, ljubav **cause**: politika, neprijateljstvo, nevolja, zlo **popular culture**: film	**weapon**: gun, tank, oružje **battle**: rat, fight, battle **participant**: army, soldier **negative feeling**: anger, pain, misery **positive feeling**: peace, love **consequence**: corpses, destroy, destruction, life, death, end **nature**: earth, dirt, horse **cause**: evil, zlo	**battle**: rat, битва **participant**: войско, солдат **type of war**: отечественная **negative feeling**: печаль, страдание, тревога, ужас **consequence**: krv, смерть **nature**: мир

Semantically, this stimulus is conditioned by the archetypal opposition *war-peace*, so the same opposition is present here within the category *positive feelings* – the conceptualisation is similar

in all three languages and the concept is seen in a negative light. In Croatian and English *causes* of war are evoked and related to *politika/politics*, *zlo/evil*, with other categories being related to componential features – *weapons, battle, participants, concequences*. Also, participants convey their opinion by expressing *negative feelings* towards it. Interestingly, in Croatian, the lexeme '*film*' is prompted because that is the usual way of representing war nowadays, with war-film being popular in early Croatian cinematography due to our Independence War. Furthermore, in Russian there is the lexeme *отечественная ('patriotic')*, which comes from *отчизна*, meaning *'homeland'* and relates to the same war Croats have fought in the 90s. This makes it culture-specific because it is conventionally used as a name for *'Великая Отечественная война' ('the Great Patriotic War')* to describe to conflicts between the Soviet Union and Nazi Germany and its allies during the period from 22 June 1941 to 9 May 1945 (which is in Russia nowadays known as '*День победы'*, i.e. *'The Victory Day'*).

Conceptual representation of the stimulus *prijatelj-friend-друг*.

prijatelj	**friend**	**друг**
trait of friendship: društvo, prijateljstvo, podrška povjerenje, sigurnost, oslonac **people**: drug, friend, brat, čovjek, prijateljica, друг, приятель **attribute**: dobar, dobro, najbolji **animal**: pas **activity**: rođendan, zabava, zagrljaj, kava **body part**: ruka, srce **positive feeling**: ljubav, dobrota, sreća **name**: Matko, Chandler **enemy**: neprijatelj **duration**: vječnost	**positive feeling**: love, fortune, warmth, happiness **trait of friendship**: ally, bond, friendship, honesty, support **attribute**: best, false, loyal **people**: comfort, company, people, prijatelj **home**: family, home, safety **enemy**: foe, enemy, **activity**: fun, help, laugh, college **name**: Karlo, Ross	**attribute**: лучший, надежный **people**: подруга, друзья, prijatelj, брат, товарищ, человек **enemy**: враг **animal**: собака **trait of friendship**: дружба, помощь, знакомство, pomoć, prijaznost **positive feeling**: любовь, счастье **name**: Тито **saying**: ale noći i piće toči

This stimulus has generally evoked positive connotations, i.e. *positive feelings* with the exception of the antonym that has appeared in the category *enemy*. Participants have defined who friends can be in the category *people*, expressed their opinion about necessary *traits of friendship*, as well as *attributes* a friend has to possess and shared *activities*. They have personified the concept by

naming their friends, with some names evoking cultural information related to popular culture. Firstly, *Chandler* and *Ross* are names of friends from the TV-show *F.R.I.E.N.D.S.*, and secondly, *Tito* is a historic reference to a Yugoslavian communist politician Josip Broz Tito, therefore usually encountered as '*drug Tito'*. Also, animals have been evoked because in these cultures there is a saying that *'a dog is one's best friend'*.

Conceptual representation of the stimulus *vrijeme-time-время*.

vrijeme	**time**	**время**
weather: sunčano, kiša, oblak, sunce, nevrijeme **passing**: prolazak, prolazi, promjena, protjecati, teče, teći, prolaznost, время **speed**: brzina, brzo, žurba, leti **length**: time, linija, dugo, rijeka **symbol**: pješčani sat, sat **medium of exchange**: novac	**passing**: flies, fly, passing, passing by, happening **time-frame**: frame, life, hour, lifetime, period, day **speed**: quick **quantity**: shortage, endless, lack, out, expendable **length**: long, short, tight, infinity **dimension**: space, continuum, vrijeme, place **symbol**: clock **medium of exchange**: money **activity**: waste	**weather**: погода, дождик **time-frame**: год, жизнь, ночь, сегодня, некогда **passing**: идет, течение, вовремя, вытечь, пролетит, протекает, идти, течет **speed**: časak, лететь, летит, быстро **quantity**: достаточно, немного **length**: линия **attribute**: тяжелое, уходящее **dimension**: vrijeme, вселенная **symbol**: часы, sat **medium of exchange**: деньги, денги **material**: и стекло, стекло

The stimulus *vrijeme-time-время* has two different conceptualisations, and both of them are, in our opinion, metaphorical extensions: *'vrijeme je novac' ('time is money')* and *'vrijeme leti' ('time flies')*. The latter has got an adequate equivalent in Russian in the expression *'время летит/время мечет'*, but the former one *(time is money)* has been adapted from the conceptual metaphor *'time is money'*, i.e. *'время – деньги'*. Categories that support the associations connected to the first metaphorical extension – *'time is money' (*which was first used by Benjamin Franklin in 1758 in his essay '*The way to wealth')* are *medium of exchange* and *quantity*, whereas the second idiom is associated with categories *passing, speed, length* and *time-frame*. Solely the fact that this conceptual metaphor has been used in the 18th century shows how enduring the metaphor is – not only in English, but in other languages as well. The constancy of the use indicates that the mapping

between conceptual domains coincides with neural mappings. The prevailing interpretation grounded by G. Lakoff and M. Johnson in their book *Metaphors we live by* is that speakers map the meaning structure of a more concrete concept onto the conceptual structure of a more abstract concept in order to facilitate understanding of the second concept through the similarity between two different concepts. This mapping usually rarely happens consciously; it is more often acquired through socialization since it embodies human experience – e.g. people are usually paid per hour, therefore, time equals money. It has to be added that *time is money* is an interesting stimulus not only from the conceptual point of view, but also form the semantic point of view due to the fact that two concepts of time are inscribed in our responses. Namely, participants have broadened the concept of *time* (‘*vrijeme’*) in Croatian and Russian to the concept of *weather conditions* (‘*погода'*). In Croatian these two concepts are cognates, i.e. the word is polysemous. So, to represent time we have the category *symbol* in Croatian consisting of *pješčani sat (‘sand clock’), sat (‘clock’),* and on the other hand, we have weather conditions represented in the category *weather,* consisting of lexemes *sunčano (‘sunny’), kiša (‘rain’), oblak (‘cloud’), sunce (‘sun’), nevrijeme (‘storm’)*. This can be noticed in Russian respectively – *time* is represented by *symbol* again and *weather conditions* by *weather*. In addition to that, we have also observed a linguocultureme in Russian – the category *material* is not connected to *стекло ('glass')* per se – when you combine the stimulus and the response, you get a collocation 'время и стекло' which is actually a reference to a Ukrainian pop duo named *Время и стекло (Vremja i Steklo)*. Their name can also be considered as a pun (‘*языковая игра’*) with a hint to ‘*время истекло'* meaning *'the time has passesd'*.

Conceptual representation of the stimulus *duša-soul-душа*.

duša	**soul**	**душа**
spirituality: soul, duh, duhovnost, spiritualno, vjernost, unutrašnjost, nematerijalno, lebdjeti, nevidljivo **name**: Iva **religion**: Bog, religija, vjera, sredina **heaven**: vječnost, svjetlost **hell**: vrag, smrt, bol	**human body**: body, heart, duša **positive feeling**: warmth, peace, kindness **love**: soulmate **religion**: purity, God, faith **state of being**: alive **heaven**: eternal, eternity, forever, free **colour**: colour, white **activity**: bind, searching	**human body**: сердце, тело, duša, душа, tijelo **spirituality**: дох, дух, в душу, невидимое, потусторонно **hell**: черт, смерт **family**: семья **animal**: собака **attribute**: моя, веселая, человека, родственная, самое главное

positive feeling: ljubav, sreća, mir, toplina **colour**: crno **human body**: srce, čovjek, osoba, tijelo, душа, um **attribute**: dobra, srodna **weather condition**: magla	**family**: sister, mate **spirituality**: spirit, ghost, life **negative feeling**: sad **death**: death, mortality	**religion**: внутренний мир, грехи, небо, вера **positive feeling**: любовь **nationality**: русские, **food**: сосиски

This stimulus clearly has positive connotations related to religious information – categories *spirituality, religion, heaven, hell* and on the other hand they have expressed what *attributes* it can possess. This information has to be influenced by Christian ideology and archetypal oppositions *heaven-hell* and *good-evil* teaching Christians lessons about sinfulness and reward. Participants have additionally described the concept with *positive feelings* and colour *white*, which symbolizes purity and innocence. Interestingly, in the category *nationality* the lexeme *русские* (‘Russians’) has been obtained, which creates a well-known linguocultureme in Russian linguistic picture of the world – *русская душа (the Russian soul)* – a term coined by N.V. Gogol' and V.V. Belinskij used to describe the uniqueness of the Russian national identity. This concept has a stable representation across all three languages in question even when it comes to metaphorical its extension – the category *human body* (lexemes *tijelo/body/тело*, *srce/heart/сердце*) implies that these lexemes are associations to underlying idioms *'(raditi, voljeti) dušom i srcem/dušom i tijelom', '(with all) heart and soul' 'душой и телом'* meaning ‘*completely, without exception’*.

Conceptual representation of the stimulus *majka-mother-мать*.

majka	**mother**	**мать**
family: otac, dijete, kći, mati, mother, obitelj, tata, мама, мать, roditelj **caring**: briga, caretaker, toplina, ljubav **name**: Vesna **attribute**: dobra, parfem, osmijeh **safety**: sigrunost, dom **stage of life**: djetinjstvo nepoznanica	**family**: father, majka, mama, brother, child, daughter, family **caring**: caretaker, caring, love, comfort, warmth, nurture **name**: Theresa, Vesna **attribute**: good, woman, smile **safety**: safe, home **nature**: nature, land	**family**: отец, папа, мама, мама, бабушка, дочь, dijete, семья, **home**: дом, родина, sigurnost **caring**: любовь **attribute**: Горького, добрая, моя, улыбка **body part**: сердце **popular culture**: Горький, музыка

This stimulus's responses were also majorly influenced by the archetypal opposition *mother-father*, so most of the responses were related to the category *family*. In addition to that, the rest of information was related to *attributes*, *caring* and *safety*, because mothers are biologically seen as someone who nurtures and protects her young. The conceptualisation is straightforward and stable across these languages to the smallest detail – in *attributes*, participants have as one of the prominent features emphasized *osmijeh/smile/улыбка*. Nevertheless, the Russian equivalent has prompted lexemes *Горького, Горький ('Gorky')* which is a direct reference to a realistic novel written by M. Gor'kij in 1906 titled *Мать ('Mother').*

Conceptual representation of the stimulus *novac-money-деньги*.

novac	**money**	**деньги**
finance: posao, banka, financije **currency**: dolar, dolari **medium of exchange**: pare, деньги, money, novčanica, gotovina **object**: papir, stvari, odjeća **wealth**: bogatstvo, luksuz, imovina, zlato, lagoda, moć, sigurnost **colour**: zeleno **animal**: kuna, ovce **negation**: nema **need**: pohlepa, kupiti, putovanje **passing**: time, life, vrijeme, prolaznost, život **problem**: dug, porez, problem **attribute**: neophodno, skupo, nužno zlo **popular culture**: emoji **question**: zašto	**colour**: green **wealth**: gold, wealth, luxury, rich, power, security **object**: paper, material, candy **medium of exchange**: cash, novac **currency**: dollars **finance**: capitalism **job**: work, earnings **bank**: ATM, bank, wallet **activity**: earn, spend **value**: importance, valuable, unnecessary **passing**: time, life	**job**: работа, работать **colour**: zeleno, зеленое, зеленые, зеленый **attribute**: дорогое, нужные, пафосный **wealth**: имущество, богатый, zlato, сила, успех, золото, материально **need**: путешествие **medium of exchange**: монеты, novac, бабки, penezi **object**: бумага **family**: бабушка **finance**: финансы, экономить, платить **quantity**: не хватает **negation**: нет **currency**: рубаль, рубли, копейка **storage**: карман, кошолек **Russia**: Путин **object:** перевод

When it comes to this stimulus, we have to emphasize that spite the fact that its semantic kernel is not stable, information inscribed in the associative field are connected to it directly, through links made with extralinguistic world. *Novac-money-деньги* is conceptualised stereotypically in relation to capitalism. E.g. categories *medium of exchange*, *colour*, *activity* and *currency* describe the

varieties of money, *attribute* conveys opinion about it and expresses the necessity. *Bank, job,* and *finance* offer scientific information about it since we encounter several economic notions. Categories *wealth, need, value* and *quantity* are references to amount of money or one's status, whereas *problem* and *negation* refer to its lack or our participants' real economic power. Also, the category *passing* offers underlying connection to the conceptual metaphor '*time is money'*, which was already mentioned. We have observed that this is the first stimulus in which we have stylistically marked expressions used for money, which could be influenced by jargon and popular *'gangsta'* subculture – e.g. *pare, penezi, бабки ('dough').* The Russian equivalent has the broadest scope of meaning inscribed – adding to the ones that have already been mentioned, we have some peculiar categories – e.g. *Russia: Путин ('Putin')* which could be a reference to the wealthiest and/or the most powerful man, *family: бабушка ('grandma')* as an ever-green source of money for her grandchildren and *storage: карман ('pocket'), кошелек ('wallet')*.

Conceptual representation of the stimulus *domovina-homeland-родина*.

domovina	**homeland**	**родина**
founder: Tuđman **protection**: patriotism, patriotizam, borba, zajedništvo **symbol**: zastava **popular culture**: Thompson **love**: ljubav, srce **attribute**: moja, jedna **location**: karta **country**: Hrvatska, zemlja, država, родина **negative feeling**: razočaranje **home**: homeland, dom, kuća, ognjište, patria **colour**: zeleno **activity**: rad	**popular culture**: TV, TV-show **country**: country, Croatia, state, Hrvatska **home**: domovina, home **location**: map **founder**: founding fathers **negative feeling**: nostalgia **parents**: mother **protection**: security, defence, patriotism **symbol**: flag, grass, nation, people **love**: ljubav	**protection**: война, патриотизм, защищать **parents**: мать, отец **symbols**: памятник **love**: любовь **country**: Россия, держава, zemlja, земля, Хорватия, страна **attribute**: большая, moja domovina **home:** дом, domovina

As a shared componential feature of this concept we would like to emphasize categories *protection, symbol, country, love* and *home* because they convey not only descriptive information, but also emotional stances. In addition to this, *negative feelings* and *attributes* also describe this concept in all three languages. In Croatian and English there is the category *founder* which represents historic

information about Croatia and the USA respectively, which makes the comparison interesting, because the first president of Croatia *Tuđman* is mentioned, and the *founding fathers* who united the original 13 colonies of the USA. In Croatian and English *negative feelings* are inscribed in the concept, but in the Russian equivalent this is not present. It is interesting that in English and Russian *parents* are evoked; this is not usual for *homeland*, but in the Russian linguistic picture of the world *родина-мать (зовет) ('homeland-mother is calling')* has a special place because it is a part of the Russian identity – it is an unofficial name used for Russia and its personification too. When it comes to information related to *popular culture*, the first one is the response TV-show because in the USA a popular TV-show named *Homeland* has recently been screened. Moreover, there are two associates related to Croatia – *Thompson*, a well-known Croatian patriot and signer, and *moja domovina ('my homeland')*– a reference to a Croatian patriotic song named *Moja domovina ('My homeland')*, issued in 1991 as a charity single by the *Croatian Band Aid (Hrvatski Band Aid)* featuring a number of prominent local musicians.

Finally, each piece of information inscribed in the associative field of every tested stimulus has a different role when forming the connotational role of a specific concept – this means that the comments highly depend on the perspective of the researcher and the recognised information. In our analysis, we have generally first noticed descriptive information and then emotional information about a concept due to the fact that we first see something and consequently form our feelings and opinion about it. Other information includes scientific, i.e. historic, religious, archetypal and mythological information. We have moreover noticed that there is no direct connection between the distribution of responses in the semantic field and associative field.

We have to state that in associative fields all lexemes are connected to each other – either directly, or indirectly because associations are considered to be results of cognitive processes, making them highly unpredictable (Barčot, 2017, p. 83). To add, associative fields are plastic – subjective, unsystematic and they lack linguistic precision because they are result of unconscious processing. Though they are lacking, they are very valuable when it comes to linguistic personality's picture of the world representation and construction. To analyse the responses within the framework of linguistic culturology, one must presuppose that linguistic personalities under inspection have some sort of linguistic culturology competence, i.e. that linguistic and cultural consciousness work simultaneously and mutually inclusive (Barčot, 2017, p. 238). When analysing, a linguist as a

native speaker has to use introspection, i.e. their own knowledge of language and world in order to reconstruct and explain given responses (Barčot, 2017, p. 238). Therefore, this analysis is a product of our own world-view and as such, it has to be considered as valid in this context.

7. Conclusion

In conclusion, in this master's thesis we have dealt with the issue of mental lexicon and its organisation. To investigate this issue, we have conducted a cross-linguistic associative experiment and reached the following conclusions regarding the mental lexicon of multilingual speakers. As far as the organisation of mental lexicon is concerned, we cannot reach any definite conclusions, but we are prone to believe that it is laid out according to the cobweb viewpoint due to the fact that words in our minds are related because of the links speakers make on their personal basis and grounded in their experience.

Related words, i.e. associates are usually words with the strongest link to the stimulus. If that means that synonyms from other languages appear as associates, we cannot claim that those are pure translation equivalents as Meara claims, but signs of conceptual mapping, i.e. L1 mediation. In our opinion, because of the short processing time, one is not able to translate between languages to produce such a response – it is more probable that the person has a good governance of foreign languages in their mind, which can be deduced from their preferred response types.

Contrary to Schmitt's claims, our participants offered predominantly paradigmatic responses and the importance of clang associates is to be diminished – as L2 learners, they possess highly advanced mental lexicon organisation. Interestingly, the same applies not only to L2, but L3 also which gives implications for the existence of an interactive system, but this should be reconsidered in further research since our sample was too small to bring straightforward conclusion on this topic. Despite this inconclusiveness, we can say that our participants have experienced syntagmatic-paradigmatic shift, proved by our results, in L1, L2 and L3. The structure of their mental lexicon is based on paradigmatic relations – stimuli in our research were nouns and the obtained responses were predominantly nouns.

If the semantic stability of concepts, on the other hand, varies, answers vary subsequently – in our experiment abstract nouns offered more dispersed associative fields, whereas concrete nouns have had narrower associative fields. Our findings related to this particular question coincide with the

ones obtained by Soderman. From our point of view, that happens simply because abstract nouns tend to have unique representation in the minds of participants, and concrete nouns are conditioned more frequently by archetypal or metaphorical relations. Also, stability changes with the proficiency, just like the response types, due to internal restructuring that is happening in mental lexicon. Despite its exploratory nature, this research provides some insight into mental lexicon. The fact that our participants have mapped their L2 and L3 meanings onto L1 meaning of the concept shows that the conceptualization could be mediated by their L1, since our results fall closely related to Verspoor's findings who suggested the same thing. This implies that there is a possibility that the languages in our mind are a part of one unitary system, but we will hopefully explore this in future research.

In the theory of linguistic culturology, universal meaning of a word hides culture-specific perception – the conceptual meaning is affected by the semantic meaning of a word. We have proved in our analysis that our participants conceptualise in a similar way in all three languages with only minor differences. But, when it comes to the use of linguoculturemes, we have to say that they were scarce, even if used in a suiting context. It seems like foreign language learners do not use them as native speakers would, despite the fact that they have shared etymology and high proficiency. Although the current study is based on a small sample of participants, the findings suggest that the correspondence of our participants' responses and native-speakers' responses was lower than expected. This can be accounted for with the fact than many (advanced) L2 language learners struggle to produce associations which are native-like, even though they have the same preferences for word choices. As Verspoor claims, this appears to happen because L1 speakers will have been exposed to certain linguistic structures more often than L2 speakers and therefore they are more salient.

To sum up, we would like to say that it has not been simple to analyse the obtained material because we are aware of the fact that the differences between languages and conceptualisation are arbitrary and that they can be questioned. Our intention was to shed light on the details that make a difference. We find the differences in the perception of reality mindboggling. In the end, the differences between Croatian, English and Russian are arbitrary and the boundaries between words are fuzzy – all the existing differences were influenced by our reading meaning in them – they are not necessarily natural in origin.

8. References

Aitchison, J. (1987) *Words in the mind: an introduction to mental lexicon*. UK: Basil Blackwell, Ltd.

Barčot, B. (2017) *Lingvokulturologija i zoonimska frazeologija*. Hrvatska sveučilišna naklada.

Bloomfield, L. (1933). *Language.* New York: Holt. In: Aitchison, J. (1987) *Words in the mind: an introduction to mental lexicon*. UK: Basil Blackwell, Ltd.

De Bot, K. & Lowie, W. (2010) On the stability of representations in the multilingual lexicon. In: Putz, M. & Sicola, N. (eds.) (2010) *Cognitive Processing in Second Language Acquisition: Inside the Learner's Mind.* John Benjamins Publishing Company. Amsterdam/Philadelphia, pp. 117-133.

Dragićević, R. (2005) Вербалне асоцијације у семантичким истраживањима (Verbalne asocijacije u semantičkim istraživanjima)[13] [Verbal associations in semantic research]. In: Пипер, П., Драгићевић, Р., & Стефановић М. (2005). *Асоцијативни речник српскога језика (I део; од стимулуса ка реакцији) (Associjativni rečnik srpskoga jezika (I deo: od stimulusa ka reakciji))*. Београдска књига + Филолошки факултет + Службени лист, Београд, pp. (56-80).

Dragićević, R. (2010) Вербалне асоцијације кроз српски језик и културу (Verbalne asocijacije kroz srpski jezik i kulturu) [Verbal associations in the Serbian language and culture]. Београд: Друштво за српски језик и књижевност Србије.

Ellis, N. C. (1997). *Vocabulary acquisition: Word structure, collocation, grammar, and meaning*. Retrieved 29 November, 2018 from the World Wide Web: http://www-personal.umich.edu/~ncellis/NickEllis/Publications_files/VocabChapMcCarthySchmidtFinalPrePrint.pdf

Ellis, N. C. (2010) Construction learning as category learning. In: *Putz, M. & Sicola, N. (eds.)(2010) Cognitive Processing in Second Language Acquisition: Inside the Learner's Mind.* John Benjamins Publishing Company. Amsterdam/Philadelphia, pp. 27-48.

Filatova, K. (2010) Third language acquisition, macrocategoeries and synonymy. In: *Putz, M. & Sicola, N. (eds.)(2010) Cognitive Processing in Second Language Acquisition: Inside the Learner's Mind.* John Benjamins Publishing Company. Amsterdam/Philadelphia, pp. 85-96.

Gass S.M. & Selinker, L. (2008) *Second language acquisition: an introductory course*. New York and London: Taylor & Francis, Routledge.

[13] All titles originally written in the Cyrillic script have been transliterated into the Latin script according to the ISO 9 transliteration norms.

Hrvatski jezični portal (Croatian Language Portal). http://hjp.znanje.hr/index.php?show=search

Jolamanova, E.I. (2009) Теория семантического поля: традиции и новации (Teoriâ semantičeskogo pol'â: tradicii i novacii). [Semantic field theory: traditions and innovations]. In: *Academic Review 2009 #1*. Американский университет в Центральной Азии, pp. 149-154. Retrieved 28 November, 2018 from the World Wide Web: http://elibrary.auca.kg/bitstream/123456789/585/1/Jolamanova_2009_1.pdf

Karaulov, N. Ju. (2002) Русский ассоциативный словарь как новый лингвистический источник и инструмент анализа языковой способности (Russkyj associativnyj slovar' kak novyj lingvističeskij istočnik i instrument analiza âzykovoj sposobnosti). [The Russian Associative dictionary as a new linguistic source and instrument for analysis of linguistic capability]. In: *Русский ассоциативный словарь: в 2-х т (Russkyj associativnyj slovar': v 2-h tomax).* Русская академия наук, Москва, pp. 750-782.

Kovšova, M. L. (2012.) *Лингвокультурологический метод во фразеологии: Коды ктултуры (Lingvokul'turologičeskij metoda vo frazeologii: Kody kul'tury) [The method of linguistic culturology in phraseology: Codes of culutre.]*. Москва: Кн. дом «ЛИБРОКОМ» in Barčot, B. (2017) *Lingvokulturologija i zoonimska frazeologija.* Hrvatska sveučilišna naklada.

Krasnyh, V.V. (2017) Психолингвокультурология как наука о человеке говорящем сквозь призму лингвокултуры (Psiholingvokul'turologiâ kak nauka o čeloveke govorâšem skvoz' prizmu lingvokul'tury) [Psycho-linguistic-culturology as a study of human through the prism of linguistic culturology]. In: Зыкова, И., Уфимцева, Н., Красных, В., & Бубнова, И. (2017) *(Нео)психолингвистика и (психо)лингвокультурология: Новые науки о человеке говорящем ((Neo)psiholinvistika i (psiho)lingvokul'turologiâ)).* Гнозис, Москва, pp. 183-261.

Lakoff, G. (1972). Hedges: A study in meaning criteria and the logic of fuzzy concepts. Papers of the Eighth Regional Meeling, Chicago Linguistic Society, 183-228. In: Aitchison, J. (1987) *Words in the mind: an introduction to mental lexicon*. UK: Basil Blackwell, Ltd.

Lightbown P.M. & Spada N. (2006) *How languages are learned*. New York: Oxford University Press.

Lowie, W., Verspoor M., & Seton, B. (2008) Conceptual representations in the multilingual mind. In: *Putz, M., Sicola, N. (eds.)(2010) Cognitive Processing in Second Language Acquisition: Inside the Learner's Mind*. John Benjamins Publishing Company. Amsterdam/Philadelphia, pp. 358-148.

Maslova, V. A. (2001) *Лингвокультурология: Учеб. пособие для студ. высш. учеб. заведений (lingvokul'turologiâ: učeb. Posobie dlâ stud. vysš. učeb. zavedenij)[Linguistc culturology: a manual for students of higher education]*. Издательский центр «Академия», Москва.

Matusevych, Y., Kalantari Dehaghi, A. A., & Stevenson, S. (2018) Modeling bilingual word associations as connected monolingual networks. In C. Jacobs, T. Linzen, A. Sayeed, & M. van Schijndel (Eds.), *Proceedings of the Eighth Annual Workshop on Cognitive Modeling and Computational Linguistics (CMCL)*. Stroudsburg, PA: Association for Computational Linguistics, pp. 46–56. Retrieved 20 October, 2018 from the World Wide Web: https://homepages.inf.ed.ac.uk/ymatusev/publications/CMCL_2018.pdf

Meara, P. (2009) *Connected words: Word associations and second language vocabulary acquisition*. Amsterdam/Philadelphia: John Benjamins B.V.

Nation, P. & Waring, R. (1997). Vocabulary size, text coverage and word lists. In: Schmitt N., McCharty, M. (Eds.) (1997), *Vocabulary: Description, Acquisition and Pedagogy*. UK: Cambridge University Press, pp. 6-19.

Nation, P. (2012) *Measuring vocabulary size in an uncommonly taught language*. Retrieved 12 January, 2019 from the World Wide Web: http://www.sti.chula.ac.th/files/conference%20file/doc/paul%20nation.pdf

Novikov, A.L. (2011) *Эскиз семантического поля(Èskiz semantičeskogo polâ) [A draft of the semantic field]*. Retrieved 3 December, 2018 from the World Wide Web: https://cyberleninka.ru/article/n/eskiz-semanticheskogo-polya

Ogden, C. & Richards, I. (1936) *The meaning of meaning*. 4th edn. London: Routledge & Kegan Paul. in Singleton, D. (1999) *Exploring the second language mental lexicon*. UK: Cambridge University Press.

Ortega, L. (2009) *Understanding second language acquistion*. New York and London: Taylor & Francis, Routledge.

Priss U. & Old L.J. (2007) Bilingual Word Association Networks. In: *Priss U., Polovina S., & Hill R. (eds) Conceptual Structures: Knowledge Architectures for Smart Applications*. ICCS 2007. Lecture Notes in Computer Science, vol 4604. Springer, Berlin, Heidelberg, pp. 310 – 320.

Rosch, E. (1978) Principles of categorization. Hillsdale, NJ: Lawrence Erlbaum. in Singleton, D. (1999) *Exploring the second language mental lexicon*. UK: Cambridge University Press.

Русский ассоциативный слоаврь (Russkij associativnyj slovar') [Russian associative dictionary]. http://www.tesaurus.ru/dict/

Schank, R. & Abelson, R. (1977) Scripts, plans, goals and understanding. Hillsdale, NJ: Lawrence Erlbaum. in Singleton, D. (1999) *Exploring the second language mental lexicon*. UK: Cambridge University Press.

Schmitt, N. (2000) *Vocabulary in language teaching*. UK: Cambridge University Press.

Singleton, D. (1999) *Exploring the second language mental lexicon*. UK: Cambridge University Press.

Soderman, T. (1993) Word associations of foreign language learners and native speakers – different response types and their relevance to lexical development. In B. Hammarberg (Ed.), *Problem, process, product in language learning: Papers from the Stockholm–Åbo Conference*, 21–22 October 1992, pp. 157-169. Retrieved 30 October, 2018 from the World Wide Web: https://www.ling.su.se/polopoly_fs/1.14100.1320939587!/problem_process_product_language_learning_1992.pdf

Справочно-информационный портал ГРАМОТА.РУ – русский язык для всех (Spravočno-informacionnyj portal GRAMOTA.RU – russkij âzyk dlâ vseh) [Informational portal Gramota.ru – Russian language for all]. http://gramota.ru/slovari/info/bts/

Stefanović, M. (2005) Од асоцијативног речника према асоцијативној граматици (Od asocijativnog rečnika prema asociativnoj gramatici) [From associative dictionary to associative grammar]. In: Пипер, П., Драгићевић, Р., & Стефановић М. (2005). *Асоцијативни речник српскога језика (I део; од стимулуса ка реакцији) (Asocijativni rečnik srpskoga jezika (I deo; od stimulusa ka reakciji))*. Београдска књига + Филолошки факултет + Службени лист, Београд, pp. (23-55).

Sternin, I.A. (1985) *Лексическое значение слова в речи (Leksičekoe značenie slova v reči) [Lexical meaning of a word in speech]*. Издательство Воронежского университета, Воронеж. Retrieved 28 November, 2018 from the World Wide Web: http://sterninia.ru/files/757/4_Izbrannye_nauchnye_publikacii/Semasiologija/Leksicheskoe_znachenie_v_rechi_1985.pdf

Swan, M. (2017) *The influence of the mother tongue on second language vocabulary acquisition and use*. Retrieved 22 October, 2018 from the World Wide Web: https://mikeswan.net/wp-content/uploads/2017/08/The-influence-%E2%80%A6.pdf .

Tarasov E., Dronov V., & Oščepkova, E. (2017) *Учебный ассоциативный словарь русского языка (Učebnyj associativnyj slovar' russkogo âzyka) [Associative dictionary of the Russian language for language learners]*. Златоуст, Санкт Петербург.

The Cambridge Dictionary. https://dictionary.cambridge.org/

Толковый словарь Ожегова онлайн (Tolkovyj slovar' Ožegova onlajn) [Ožegov's dictionary online]. https://slovarozhegova.ru/

Ufimtseva, N. V. (2008). Ассоциативные словари славянских языков (Associativnye slovari slavânskih âzykov) [Associative dictionaries of Slavic languages]. In: Gawarkiewicz, R. Pietrzyk I., & Rodziewicz, B. (2008) *Polski słownik asocjacyjny: z suplementem.* Print Group, Szczecin, pp. 15-31.

Ufimtseva, N. V. (2003) Языковое сознание как отображение этносоциокультурной реальности (Âzykovoe soznanie kak otobraženie ètnosociokul'turnoj real'nosti) [Linguistic consciousness as a reflect of ethnosociocultural reality]. In: *Вопросы психолингвистики (Voprosy psiholingvistiki).* Образовательное частное учреждение высшего образования «Московская международная академия», Москва, pp. 102-110. Retrieved 10 September, 2018 from the World Wide Web: https://cyberleninka.ru/article/n/yazykovoe-soznanie-kak-otobrazhenie-etnosotsiokulturnoy-realnosti

Ufimtseva, N. V. (2004) Предисловие (Predislovie) [Preface]. In: Уфимцева, Н. В., Черкасова, Г. А., Караулов, Ю. Н., & Тарасов, Е. Ф. (2004). *Славянский ассоциативный словарь: русский, белорусский, болгарский, украинский* [The Slavic associative dictionary: Russian, Belorussian, Bulgarian, Ukranian]. Московский государственный лингвистический университет, Москва, pp. 3-10.

Ufimtseva, N. V. (2009) Образ мира русских: системность и содержание (Obraz mira russkih: sistemnost' i soderžanie) [World-image of Russians: systemacity and content.]. *Язык и культура, № 4 (8).*, pp. 98-111. Retrieved 10 September, 2018 from the World Wide Web: https://cyberleninka.ru/article/n/obraz-mira-russkih-sistemnost-i-soderzhanie

Ufimtseva, N.V., Čerkasova, G.A., Karaulov, N. Ju., & Tarasov, E.F. (2004) *Славянский ассоциативный словарь [The Slavic associative dictionary]*. Московский государственный лингвистический университет, Москва. http://it-claim.ru/Projects/ASIS/SAS/SAS_pdf/SAS.pdf

Ufimtseva, A. A. (1962) *Опыт изучения лексики как системы. На материале английского языка (Opyt izučeniâ leksiki kak sistemy. Na materiale anglijskogo âzyka) [The experience of learning vocabulary as a system. On materials from the English language]*. Изд-во Академии наук СССР, Москва.

Ullmann, S. (1962) Semantics: an introduction to the science of meaning. Oxford: Blackwell. in Singleton, D. (1999) *Exploring the second language mental lexicon*. UK: Cambridge University Press.

van Hell, J. & de Groot, A. (1998) Conceptual representation in bilingual memory: Effects of concreteness and cognate status in word association. In: *Bilingualism: Language and Cognition 1 (3)* (1998). Cambridge University Press, pp. 193-211. Retrieved 25 October, 2018 from the World Wide Web: https://doi.org/10.1017/S1366728998000352

Verspoor, M. H. (2008). What bilingual word associations can tell us. In: F. Boers, & S. Lindstromberg (Eds.), Cognitive Linguistic Approaches to Teaching Vocabulary and Phraseology. (Applications of Cognitive Linguistics). Berlin. New York: De Gruyter Mouton, pp. 261 - 290.

Wolter, B. (2001) Comparing the L1 and L2 mental lexicon. Comparing the L1 and L2 mental lexicon: A depth of individual word knowledge model. *Studies in Second Language Acquisition*, no. 23. pp. 41-69. Retrieved 30 October, 2018 from the World Wide Web: https://www.researchgate.net/publication/248670861_Comparing_the_L1_and_L2_mental_lexicon_A_depth_of_individual_word_knowledge_model

9. Appendices

Appendix A.

Language biography questionnaire

JEZIČNA BIOGRAFIJA

***Zaporka*:** _____ (molim Vas da je zapamtite)

***Godina studija (zaokružite)*:** 3. / 4. / 5.

***Spol*:** M / Ž

***Materinski jezik*:** _____

Duljina učenja jezika:

- **engleski**: _____ (godina)
- **ruski**: _____ (godina)

(Ako znate dodatne strane jezike, navedite koje: _____)

Ocijenite svoje poznavanje jezika unutar CEFR okvira (zaokružite):

- **engleski**: A1 / A2 / B1 / B2 / C1 / C2
- **ruski**: A1 / A2 / B1 / B2 / C1 / C2

Prosječna ocjena na kolegiju* Suvremeni engleski jezik (CEL 1,2,3):* 1 / 2 / 3 / 4 / 5

Prosječna ocjena na kolegiju* Jezične vježbe iz ruskog jezika:* 1 / 2 / 3 / 4 / 5

Appendix B.

Associations questionnaire (Croatian)

ANKETA ASOCIJACIJA

ZAPORKA: _____

Molim Vas da u nastavku za svaku od ponuđenih riječi navedete riječ koja u tom trenutku Vama prva padne napamet.

○ **kuća**	
○ **ruka**	
○ **medvjed**	
○ **sjeta**	
○ **zlo**	
○ **život**	
○ **iskustvo**	
○ **sudbina**	
○ **rat**	
○ **prijatelj**	
○ **vrijeme**	
○ **duša**	
○ **majka**	
○ **novac**	
○ **domovina**	

Appendix C.

Associations questionnaire (English)

ASSOCIATIONS QUESTIONNAIRE

PASSWORD: _____

Please, write down the first word that comes to your mind for each of the following words.

○ **house**	
○ **homeland**	
○ **fate**	
○ **yearning**	
○ **soul**	
○ **life**	
○ **evil (N)**	
○ **bear (N)**	
○ **war**	
○ **friend**	
○ **time**	
○ **experience**	
○ **mother**	
○ **money**	
○ **arm**	

Appendix D

Associations questionnaire (Russian)

АНКЕТА АССОЦИАЦИЙ

ПАРОЛЬ: _____

Пожалуйста, к каждому из следующих слов подберите первое слово, пришедшее Вам в голову.

○ **опыт**	
○ **судьба**	
○ **мать**	
○ **деньги**	
○ **война**	
○ **рука**	
○ **жизнь**	
○ **дом**	
○ **душа**	
○ **время**	
○ **родина**	
○ **зло**	
○ **друг**	
○ **тоска**	
○ **медведь**	

Appendix E.

Stimuli – dictionary entries definitions[14].

arm	• either of the two long parts of the upper body that are attached to theshoulders and have the hands at the end • the arm of a piece of clothing or furniture is a part of it that you putyour arm in or on
ruka	• anat. a. jedan od gornjih udova ljudskog tijela od ramena do vrhova prstiju [lijeva ili desna ruka] b. šaka (od zglavka do prstiju) • rad uložen u proizvod, posao
рука	• одна из двух верхнихконечностей человека от плеча до кончиков пальцев, а также от запястья докончиков пальцев

[14] The following online dictionaries have been used to provide definitions of stimuli: http://hjp.znanje.hr/index.php?show=main (Croatian); https://dictionary.cambridge.org/ (English); https://slovarozhegova.ru/ , http://gramota.ru/ (Russian).

	• перен. почерк, подпись

bear (N)	• a large, strong wild mammal with a thick fur coat that lives especially in colder parts of Europe, Asia, and North America
medvjed	• zool. zvijer planinskih krajeva, guste runjave smeđe dlake (Ursus arctos) • pren. A). osoba neuglađena ponašanja B) podr. nezgrapna osoba zdepaste tjelesne građe
медведь	• крупное хищное млекопитающее с длинной шерстью итолстыми ногами, а также его мех • перен. о неуклюжем, неповоротливомчеловеке (разг.)

evil (N)	• the condition of being immoral, cruel, or bad, or an act of this type
zlo	• loš, ružan čin, ružno djelo, loša djela, opr. dòbro (I) • nevolja, nesreća
зло	• нечто дурное, вредное,противоположное добру; злой поступок • беда, несчастье,неприятность

experience	• (the process of getting) knowledge or skill from doing, seeing, or feeling things • something that happens to you that affects how you feel
iskustvo	• trenutno promatranje ili praktično poznavanje činjenica ili događaja • znanje ili vještina kao posljedica toga
опыт	• отражение в сознании людей законов объективного мира иобщественной практики, полученное в результате их активного практическогопознания (спец.) • совокупность знаний и практическиусвоенных навыков, умений

fate	• what happens to a particular person or thing, especially something final or negative, such as death or defeat • a power that some people believe causes and controls all events, so that you cannot change or control the way things will happen
sudbina	• sila koja prema mnogim vjerovanjima, upravlja životom ljudi i odvijanjem događaja • sve što je u skladu s takvim vjerovanjem, predodređeno da se čovjeku dogodi; fatum, sudba

судьба	• стечение обстоятельств, не зависящих от воли человека, ход жизненныхсобытий • доля, участь

friend	• a person who you know well and who you like a lot, but who is usually not a member of your family • someone who is not an enemy and who you can trust
prijatelj	• blizak poznanik s kojim se u druženju njeguju poštovanje, povjerenje i ljubav • etnol. otac jednoga od bračnih drugova prema ocu drugoga
друг	• человек, к-рый связан с кем-н.дружбой • кого-чего.сторонник, защитник кого-чего-н. (высок.).

homeland	• the country you were born in • (in the past) one of the areas in South Africa in which black people were separated from whites under the political system of apartheid
domovina	• zemlja rođenja, zemlja podrijetla, zemlja kojoj čovjek pripada po svojim pravima ili po osjećajima; domaja • rij. zemlja, kraj gdje se što pojavilo, gdje uspijeva, gdje je autohtono; obitavalište, postojbina, stanište (o biljkama i životinjama)
родина	• отечество, родная страна • место рождения, происхождения кого-чего-н., возникновения чего-н

house	a building that people, usually one family, live in all the people living in a house
kuća	zgrada koja ima zidove i krov i služi za stanovanje; hiža A) obitelj, ukućani, porodica, loza [iz dobre kuće] B) razg. prostor stalnog boravljenja [nisam kod kuće]; dom, stan
дом	жилое (или для учреждения) здание свое жилье, а также семья, люди,живущие вместе, их хозяйство

life	• the period between birth and death, or the experience or state of being alive • a way of living or a particular part of someone's life
život	• stanje bića od rođenja do smrti, ukupnost funkcija individualizirane i organizirane tvari, opr. smrt • postojanje, opstanak

жизнь	• особая форма существования материи, возникающая на определённом этапе её развития, основным отличием которой от неживой природы является обмен веществ • физиологическое состояние живого организма (человека, животного, растения) от зарождения, роста, развития и до разрушения (противоп.: смерть)

money	• coins or notes (= special pieces of paper) that are used to buy things, or an amount of these that a person has
novac	• sredstvo plaćanja u kovanim ili papirnatim komadima u raznim vrijednostima (apoenima); lova • A) pojedini komad kovanog novca; novčić, para, B) neki iznos u novcu
деньги	• металлические и бумажные знаки (в докапиталистических формациях - особые товары), являющиеся мерой стоимости при купле-продаже, средством платежей и предметом накопления • капитал, средства

mother	• a female parent
majka	• žena koja je rodila jedno ili više djece; B) ona koja je rodila u odnosu na one koje je rodila; mama, C) ženka koja je donijela na svijet u odnosu na mladunčad • pren. A) ono od čega što potječe; B) onaj koji štiti i pomaže
мать	• женщина по отношению к своим детям • перен. источник (во 2 знач.), начало чего-н., а также о том,что дорого, близко каждому

soul	• the spiritual part of a person that some people believe continues to exist in some form after their body has died, or the part of a person that is not physical and experiences deep feelings and emotions • the quality of a person or work of art that shows or produces deep good feelings
duša	• rel. nematerijalni princip čovjekova života (prema tijelu) • ukupnost čovjekovih osjećaja, svijesti i karakternih osobina
душа	• внутренний,психический мир человека, его сознание • то или иное свойство характера, а также человек с теми или инымисвойствами

time	• the part of existence that is measured in minutes, days, years, etc., or this process considered as a whole • a particular point of the day, year, etc. that is suitable for a particular activity, or at which something is expected to happen
vrijeme	• dimenzija univerzuma prema kojoj je uređen nepovratni slijed pojava • mjera za vrijeme
время	• одна из форм (наряду спространством) существования бесконечно развивающейся материи -последовательная смена ее явлений и состояний • продолжительность, длительность чего-н., измеряемаясекундами, минутами, часами

war	• armed fighting between two or more countries or groups, or a particular example of this • any situation in which there is strong competition between opposing sides or a great fight against something harmful
rat	• oružani sukob velikih razmjera između dviju ili više država, dvaju naroda, dviju ljudskih skupina; vojna, opr. mir • pren. A) neprijateljstvo ili svađa B) sustavno suzbijanje čega; borba
война	• вооруженная борьба междугосударствами или народами, между классами внутри государства • перен. борьба, враждебные отношения с кем-чем-н

yearning	• a strong feeling of wishing for something, especially something that you cannot have or get easily
sjeta	• duševno stanje blage tuge i čežnje ili sjećanja na drago, lijepo ili izgubljeno; melankolija
тоска	• душевная тревога, уныние • скука, а также(разг.) что-н. очень скучное, неинтересное

Appendix F.

Lists of responses obtained from participants with the highest proficiency.

participant number 25:

kuća	dom	**house**	home	**опыт**	память
ruka	šaka	**homeland**	country	**судьба**	жизнь
medvjed	medo	**fate**	destiny	**мать**	папа

sjeta	uspomena	**yearning**	sorrow	**деньги**	путешествие
zlo	sotona	**soul**	kindness	**война**	мир
život	iskustvo	**life**	experience	**рука**	персть
iskustvo	mudrost	**evil (N)**	satan	**жизнь**	смерть
sudbina	određenost	**bear (N)**	wood	**дом**	семья
rat	nevolja	**war**	misery	**душа**	сердце
prijatelj	oslonac	**friend**	szpport	**время**	быстро
vrijeme	prolaznost	**time**	passing by	**родина**	страна
duša	srce	**experience**	wisdom	**зло**	добро
majka	mama	**mother**	love	**друг**	подруга
novac	lagoda	**money**	wealth	**тоска**	
domovina	zajedništvo	**arm**	hand	**медведь**	мама

participant number 37:

kuća	dom	**house**	home	**опыт**	работа
ruka	prsti	**homeland**	country	**судьба**	жизнь
medvjed	šaka	**fate**	destiny	**мать**	папа
sjeta	tuga	**yearning**	longing	**деньги**	успех
zlo	maćeha	**soul**	body	**война**	мир
život	put	**life**	eternal	**рука**	пальцы
iskustvo	učitelj	**evil (N)**	devil	**жизнь**	сладкая
sudbina	sreća	**bear (N)**	animal	**дом**	семья
rat	mir	**war**	peace	**душа**	внутренний мир
prijatelj	drug	**friend**	home	**время**	течение
vrijeme	protjecati	**time**	long	**родина**	дом
duša	spiritualno	**experience**	job	**зло**	правда
majka	dom	**mother**	father	**друг**	враг
novac	život	**money**	life	**тоска**	слезы
domovina	partiotizam	**arm**	leg	**медведь**	лапы

Appendix G.
Complete overview of response type distribution.

		paradigmatic	**syntagmatic**	**clang**	**missing**
house	Croatian	49	1		
	English	49		1	
	Russian	44	5		1
	Croatian	49	1		

arm	English	46	4		
	Russian	50			
bear	Croatian	43	7		
	English	37	13		
	Russian	48	1	1	
yearning	Croatian	49			1
	English	44	5	1	
	Russian	41	3	2	4
evil	Croatian	43	7		
	English	39	10		1
	Russian	44	5	1	
life	Croatian	41	9		
	English	38	12		
	Russian	36	14		
experience	Croatian	47	3		
	English	42	8		
	Russian	42	6	1	1
fate	Croatian	38	12		
	English	42	8		
	Russian	37	11	1	1
war	Croatian	50			
	English	46	3		1
	Russian	48	2		
friend	Croatian	45	5		
	English	43	7		
	Russian	44	5	1	
time	Croatian	39	11		
	English	36	14		
	Russian	39	20		1
soul	Croatian	42	8		
	English	42	8		
	Russian	39	11		
mother	Croatian	49	1		
	English	46	4		
	Russian	46	4		
money	Croatian	42	7	1	
	English	36	14		
	Russian	31	17	1	1
homeland	Croatian	46	4		
	English	50			
	Russian	47	2	1	

Appendix H. Translation equivalents of all the responses obtained from the *Associations questionnaire* (Croatian).

house – *home **24**; roof **5**; house **4**; house, family, security **2**; building, apple, lake, love, mum, parent, dad, carpet, warmth, warm, building **1***

arm *– leg **13**; finger **12**; body **4**; hand, ring, fist **3**; arm, palm, arm **2**; human, right, pen, arms, thing, paw **1***

bear *– forest **10**; Masha **6**; honey **5**; animal **4**; lair, grizzly, bear, teddy, paw **2**; bear, fur, hunt, Masha, black, attack, translation, fish, Russia, sweet, brown, brown, ear, big, hibernation **1***

yearning *– sadness **30**; nostalgia **3**; dark, yearning **2**; /, sorrow, home, autumn, summer, dark, apathy, nostalgia, Oliver Dragojević, past, tit, tear, memory **1***

evil *– good **11**; devil **7**; evil, hell **3**; black, bad, enemy, accident, witch, **2**; pain, black colour, people, stepmom, upside-down, weakness, necessary, paper, horns, Saruman, Satan, fear, rotten, fire, evil, sorrow **1***

life *– death **14**; life **4**; long, happiness **3**; child, beautiful, love **2**; baby, plant, road, gift, length, experience, short, life, sea, trouble, unfair, pass, path, happiness, birth, shadow, Sun, stomach, sadness, water **1***

experience – *work **8**; job, knowledge **5**; art **4**; experience, years, experience, elderliness, life **3**; wisdom **2**; beard, grandpa, исскуство, don't have, priceless, sexual, cognition, fate, teacher, skill, time **1***

fate *– life **4**; cursed **3**; future, fatal **2**; amor fati, chance, destiny, Oedipus, faith, fate, fatum, augury, horoscope, experience, cards, end, ball, lie, love, doesn't exist, unchangeable, unknown, set, determined, hunch, path, heaven, arms, grey, freedom, chance, merging, happiness, happy, dread, fate, fate, tarot, difficult, tragedy, faith, stars **1***

war *– peace **16**; war **4**; death, horror, army **3**; battle, fear, sadness, evil **2**; pain, movie, love, swords, hostility, trouble, weapons, politics, casualties, tank, cannon, war, soldier **1***

friend *– friend **8**; friend, happiness **3**; good, good, friend, society, love, support, support, trust, security **2**; brother, Chandler, man, goodness, coffee, Matko, best, enemy, dog, friend, friend, friendship, birthday, arm, heart, eternity, fun, hug **1***

time *- clock **9**; passing by **8**; time **5**; money **4**; long, storm, passage, pass, sunny **2**; speed, fast, rain, fly, line, cloud, sand clock, change, pass, river, sun, run, run, time, haste **1***

soul *– heart **9**; soul **4**; human **3**; God, good, ghost, fog **2**; pain, black, spirituality, soul, Iva, hover, love, peace, non-material, invisible, person, religion, death, spirituality, happiness, middle, mate, light, body, warmth, mind, inside, eternity, faith, faithfulness, devil **1***

mother *– father* ***14****; love* ***9****; mother* ***3****; child, childhood, home, mother, family* ***2****; care, caretaker, good, daughter, mum, mother, unknown, smile, perfume, parent, security, dad, warmth, Vesna* ***1***

money *– money* ***4****; security* ***3;*** *dollar, kuna, luxury, sheep, dough, job, green* ***2****; bank, wealth, money, dollars, debt, emoji, finance, cash, personal property, buy, unburdened, power, don't have, necessary, bill, necessity, clothes, paper, greed, tax, problem, passing, travel, expensive, things, time, why, gold, life* ***1***

homeland *– Croatia* ***16****; country, land* ***3****; home, homeland, love, my, homeland, heart* ***2****; battle, one, map, house, fireplace, patria, patriotism, patriotism, past, work, disappointment, Thompson, Tuđman, community, flag, green* ***1***

Appendix I. Translation equivalents of all the responses obtained from the *Associations questionnaire* (Russian).

experience – *life* ***10****; work* ***9****; experience* ***5****; life, knowledge, art, travel* ***2****; /, business, big, question, time, years, life, experienced, art, quality, mastery, wisdom, memory, help, practical work, strength, elderliness, old* ***1***

fate *– life* ***13****; off-chance, fate* ***4****; future* ***3****; human, love* ***2****; /, bitter, work, road, life, evil, irony, easy, doesn't exist, necessary, one, experience, sadness, determined, cursed, cursed, tie, superstitions, cursed fate, human, human* ***1***

mother *– father* ***12****; love* ***8****; house* ***6****; homeland* ***4****; mum, dad* ***3****; mum* ***2****; grandma, Gorky, Gorky's, child, good, daughter, my, music, family, heart, security, smile* ***1***

money *– money, work* ***4****; wealth* ***3****; rich, paper, green, gold* ***2****; /, dough, grandma, expensive, green, green, green, gold, pocket, kopek, wallet, material, bills, not enough, no, necessary, pathos, money, translation, pay, travel, Putin, work, ruble, rubles, power, success, finance, save* ***1***

war *– peace* ***31****; war* ***4****; battle, patriotic, sadness, death* ***3****; army, blood, soldier, casualties, terror, horror* ***1***

arm *– leg* ***19****; finger* ***9****; arm, body* ***3****; pen* ***2****; army, possibility, work, right, soul, skin, palm, fingernail, little leg, finger, glove, help, friend, builder* ***1***

life *– death* ***14****; life* ***3****; existence, bitter, experience, birth, fate, like that* ***2****; century, time, long, long, stomach, art, short, people, new-born, one, one, finished, cursed, path, happiness, happiness, sweet, happiness, difficult, human, humanity* ***1****;*

house *– family **10**; apartment **5**; roof **3**; house, apartment building, house **2**; /, ready, far away, dacha, village, little house, homeland, housekeeper, childhood, a place to live, kitchen, a lot, love, mum, security, fire, fireplace, homeland, dog, warm, warmth, difficult, cosy, surname, host, household **1***

soul *– heart **14**; body **4**; soul, love, my **3**; spirit, in soul **2**; faith, happy, internal peace, sins, breath, soul, sky, invisible, otherworldly, related, Russians, most important, family, death, dog, hot dogs, body, human, devil **1***

time *– clock **6**; time **4**; enough **3**; fast, year, money, goes, flies, weather, pass **2**; in time, universe, run out, money, rain, life, and glass, go, fly, line, once, a little, night, fly, flows, clock, today, glass, flows, heavy, leaving, moment **1***

homeland *– Croatia **15**; mother, country **7**; house **4**; homeland, Russia **3**; big, war, country, protect, country, country, love, my homeland, father, monument, patriotism **1***

evil *– good **16**; evil **4**; enemies, devil **3**; devil, malice, dark **2**; hell, devil, Hitler, good, goodness, devil, snake, gold, red colour, misfortune, bad, true, death, dog, suffering, fear, good, red **1***

friend *– friend **15**, friends, best, help **4**, enemy, friend **3**, brother, friendship, love, happiness **2**, ale noći i piće toči, acquaintance, eager, help, politeness, dog, Tito, friend, human **1***

yearning *– sadness **8**; sadness **6**; boredom **5**; / **4**; tears **3**, desire, happiness **2**, trouble, pain, sadness, death, house, plank, blackboard, desire, bed, melancholy, anguish, nostalgia, joy, bag, dark, anguish, despondent, black, emotion **1***

bear *– Masha **18**; forest, honey **5**; animal **4**; bear **2**; otter, rabbit, paws, beast, fox, Masha, teddy, bear cub, Moscow, mouse, Putin, Russia, fish, dream, brown, fur **1***

Sažetak

U literaturi na temu mentalnog leksikona asocijacije se javljaju najboljim rješenjem za ispitivanje tog ljudskog mehanizma. Istraživači su se sve do nedavno opredjeljivali za istraživanja zasnovanima na monolingualnim sudionicima, no jezične, pa samim time i kulturne zajednice se danas percipiraju kao „melting pot“ i najčešće su multilingualne zbog različitih kulturoloških pozadina svojih članova. Cilj je ovog diplomskog rada istražiti asocijacije i organizaciju mentalnog leksikona višejezičnih govornika hrvatskog, engleskog i ruskog jezika. Za skupljanje podataka korišteni su upitnici asocijacija koji su se zatim statistički analizirali i objasnili u okvirima asocijativnih polja i konceptualnih podudaranja uzrokovanih tipološkom bliskošću proučavanih jezika, kao i statusom tih jezika u njihovim repertoarima. Na temelju lingvokulturološke teorije, slavenska etimologija i tradicija, koju ruski i hrvatski dijele, uvjetuje način na koji govornici oblikuju svoju jezičnu sliku svijeta. Analiza odgovora pokazala je da su sličnosti u konceptualnim kategorijama sudionika često pod utjecajem materinskog jezika. Nadalje, mnogi faktori, poput razine znanja jezika sudionika i faktori vezani uz riječi-stimule utječu na odgovore u trima jezicima. Zbog veličine uzorka korištenog u ovom istraživanju, rezultati koji su dobiveni smatraju se samo indikativnima pa je, prema tome, potrebno daljnje istraživanje.

Ključne riječi: asocijacije u hrvatskom, ruskom i engleskom jeziku, mentalni leksikon, lingvokulturologija, asocijativno polje, konceptualizacija.

Резюме

В литературе по ментальной лексике ассоциации используются как решение для изучения этого неуловимого человеческого механизма. До недавнего времени исследователи в основном занимались исследованиями, основанными на данных одноязычных респондентов, но в настоящее время сообщества воспринимаются как «плавильные котлы», и они в основном многоязычны из-за разного культурного происхождения своих членов. Данные тезисы направлены на изучение ассоциаций и организацию ментальной лексики многоязычных носителей хорватского, английского и русского языков. Анкеты ассоциаций использовались для сбора данных, которые затем подвергались статистическому анализу и объяснению с точки зрения ассоциативных полей и концептуальных совпадений, вызванных типологической близостью языков и их статуса в репертуаре респондентов. Опираясь на литературу по лингвокультурологии, общая славянская этимология и традиции, которыми обладают хорватский и русский языки, определяют способ, которым говорящие на этих языках формируют свою языковую картину мира. Анализ ответов показал, что концептуальные категории в языках участников часто опосредуются концепцией L1 и что многие факторы, как например, уровень владения языком и факторы, связанные со словами-стимулами, влияют на ответы на трех языках. Но размер выборки, использованный в этом исследовании, является лишь ориентировочным. Поэтому необходимы дальнейшие исследования.

Ключевые слова: ассоциации в хорватском, русском и английском языках, ментальный лексикон, лингвокультурология, ассоциативное поле, концептуализация.