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BACHELOR THESIS

Cups, Mugs and Glasses vs. šálky, hrnky a sklenice:
Cross-Linguistic Influence on Czech-English Bilinguals' Drinkware Naming

Cups, Mugs and Glasses vs. šálky, hrnky a sklenice:
Vliv prvního a druhého jazyka na konceptualizaci u bilingvních mluvčích

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I hereby declare that the bachelor thesis *Cups, Mugs and Glasses vs. šálky, hrnky a sklenice: Cross-Linguistic Influence on Czech-English Bilinguals' Drinkware Naming* is entirely my own work and the only sources used in the preparation are listed on the works cited page.

Prague, 17th April 2021

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Veronika Hylenová

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ABSTRACT

This thesis investigates cross-linguistic influence in Czech-English bilinguals' drinkware naming, adopting the research question put forth by Pavlenko and Malt (2011), who examined the effect of second language exposure on Russian-English bilinguals' use of drinkware naming, reflecting different natures of categorization in the respective languages.

The assumed conceptualization differences between English and Czech are first explored via corpus-based analyses of common translation equivalents and their semantic similarity. A picture-naming experiment is then conducted to corroborate the results of the corpus analyses and to prove the existence of Czech-English cross-linguistic influence. The results of the experiment as well as the results of subsequent cluster analyses suggest that Czech-English bilinguals' conceptualization is, in fact, affected by cross-linguistic influence.

KEYWORDS

Cross-linguistic influence, bilingualism, Czech, English, experimental study, corpus methods, drinkware naming

ABSTRAKT

Tato práce se zabývá mezijazykovými vlivy v pojmenování nádob česko-anglickými bilingvními mluvčími. Vychází z výzkumu Anety Pavlenko a Barbary C. Malt (2011), jež zkoumaly vliv druhého jazyka na pojmenování nádob u rusko-anglických bilingvních mluvčích s přihlédnutím k rozdílným podstatám kategorizace v obou jazycích.

Předpokládané rozdíly v konceptualizaci v anglickém a českém jazyce jsou nejprve zkoumány pomocí korpusových analýz překladových ekvivalentů a jejich vzájemné sémantické podobnosti. Za účelem ověření výsledků korpusového výzkumu a prokázání existence vlivů mezi českým a anglickým jazykem je poté proveden experiment, v němž respondenti přiřazují pojmenování objektům na fotografiích. Výsledky tohoto experimentu i následné shlukové analýzy naznačují, že mezijazykové vlivy jsou v konceptualizaci česko-anglických bilingvních mluvčích opravdu přítomny.

KLÍČOVÁ SLOVA

Mezijazykové vlivy, bilingvismus, čeština, angličtina, experimentální výzkum, korpusový výzkum, pojmenování nádob

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Introduction

Inspired by the belief that learning of a foreign language is a means of attaining a new perspective for perceiving the world, shared with Wilhelm von Humboldt who articulated it already in the 19th century, this thesis will explore the corners of a bilingual mind.

After establishing a few key terms pertinent to bilingualism, an overview of approaches to bilingual mental lexicon followed by a theory of cross-linguistic influence within the bilingual mind will be presented. Then, extra-linguistic reality will be added into the scope of the thesis and the process of word-to-referent mapping will be described.

As the aim of this thesis is to investigate the possible influence of second language experience on Czech-English bilinguals' first language lexicon, in the second part of the thesis, the focus will be placed on the comparison of English and Czech. Both languages will be compared in terms of morphology and diglossia will be touched upon as one of the phenomena exceptionally prominent within the Czech language community.

From then on, the scope of the thesis will be narrowed exclusively to drinkware names. The complexity of the issue of drinkware translation equivalency will be proven via a corpus-based analysis and to explore the issue further, common translation equivalents will be subjected to a subsequent analysis of semantic similarity. Finally, a picture naming experiment will be conducted to corroborate the results of the corpus analyses.

The procedure of the experiment will be based on Pavlenko and Malt's experiment conducted in 2011. The subjects will be divided into 3 groups: an experimental group of Czech-English bilinguals, and 2 native control groups. The objective of the experiment will be to determine whether Czech and English drinkware naming differ (and to what extent). Furthermore, it will be expected to uncover hints of possible cross-linguistic influence in Czech-English bilinguals. Finally, the results of the experiment will be presented in comparison with the original study.

To allow clear truth-value judgements, the following hypotheses will be put forward:

1. Czech speakers will use a wider variety of names for the objects than English speakers.
2. The respondents' agreement will be higher in English than in Czech.

3. The word 'cup' will be used to name more objects than its common translation equivalent 'šálek'.
4. In comparison with the group of Czech native speakers, Czech-English bilinguals will tend to use a smaller set of object names, which will result in higher recurrence of the same names.

Additionally, a Pearson chi-squared test and cluster analyses will be performed to facilitate deeper understanding of the discrepancies between the experimental and the Czech control group and to allow careful examination of the possible Czech-English cross-linguistic influence effects.

In conclusion, the study's original contribution will consist of shedding the light on the cross-linguistic differences in the domain of drinkware categories between Czech and English and of experimental exploration of the possible Czech-English cross-linguistic influence.

1 Bilingual mind

At the very beginning, I would like to establish a few basic terms used throughout this thesis. The following terms were adopted mainly from Field's publication *Key Concepts in Bilingualism* (2011) and will be used accordingly.

1.1 Bilingualism

Bilingualism is generally understood as an abstract noun denoting the capacity to use two languages fluently. Bilingual speakers (**bilinguals**) can therefore use not only their native language (L1) but also a second language (L2) in the process of communication. The process of language acquisition however subsumes many aspects (e.g. the time of acquisition and achieved proficiency) and, therefore, providing a precise definition of this term is highly problematic. (Field 16)

With regard to the time of acquisition, we can differentiate between **simultaneous bilingualism** (Field 160-161) and **sequential bilingualism** (Field 158), the former being characteristic by parallel acquisition of both languages in the first three years of life, the latter presupposing later acquisition (or learning) of L2. The case of sequential bilingualism is represented primarily by speakers who acquire L2 after changing their place of residence. The most prominent factors that influence their L2 acquisition are the **age of arrival** and the **length of residence** in the target language community (Field 7).

Another aspect, which should be taken into account, is proficiency, defined by accuracy and fluency. There are various opinions about the level of proficiency which one must achieve to be considered bilingual. In terms of proficiency, we can differentiate between **balanced bilinguals**, whose proficiency is equal in both languages (Field 14-15), and **functional bilinguals**, whose knowledge of L2 may be limited to the level necessary for functioning within the L2 community (Field 74-75). As there are very few completely balanced bilinguals, the term **dominant language** is often used to refer to the language in which a speaker is more proficient. The dominant language is usually the more frequently used one, however, it is not always L1. The dominant language switch hypothesis suggests that L2 tends to become dominant especially when it is acquired at a very young age. (Field 58)

Another term associated with proficiency is **semilingualism**. This term was coined in the 20th century when bilingualism was viewed as retarding the thought process and denotes the capacity to use two languages, but neither one of them fluently. This term is, therefore, rather controversial as it carries strong negative connotations. (Field 157)

The term bilingualism is often used interchangeably with the term **multilingualism** which denotes the same concept but includes also speakers proficient in more than two languages (Field 121).

In this thesis, the focus will be placed mainly on bilingual speakers who acquired the L2 competence later in their lives and their proficiency in both, L1 and L2, is relatively equal.

1.2 Mental lexicon

Mental lexicon can be understood as a dictionary in every speaker's mind. It contains information about words' meaning, possible forms, and potential grammatical functions (Field 109-110). The study of the mental lexicon is concerned mainly with its structure and with the process of accessing the lexical items stored within it (Field 1).

1.2.1 Bilingual mental lexicon

The main concern of linguistic research of bilingual mental lexicon is establishing whether there are two separate mental lexicons in the mind of a bilingual or only one, which comprises the two languages into a united language system. The bilinguals' ability to use a chosen language independently with no regard to the other one seems to indicate that the two lexicons are separate, on the other hand, their ability to switch language codes in a split second suggests the opposite.

However, the question is not polar. Already in 1953, Weinreich posited that there are three types of mental lexicons, which differ in their form-meaning organization. In accordance with his theory, three types of bilinguals can be distinguished. Type A – a **coordinate bilingual** (Figure 1) – has two separate mental lexicons, which appear to be completely independent. According to Weinrich, this type is common when each language is acquired in a different environment (Field 43). Conversely, when both languages are acquired in the same environment, only one mental lexicon is developed. Type B – a **compound bilingual** (Figure 2) – has only one set of concepts (meanings) in his mental lexicon (Field

35). Each concept is then connected to two different word forms, which are perceived as translation equivalents. Finally, type C – a **subordinate bilingual** (Figure 3) – has one set of concepts represented primarily by L1 word forms. L2 words can be accessed only via their L1 equivalents. This type is typical for L2 learners of lower proficiency.

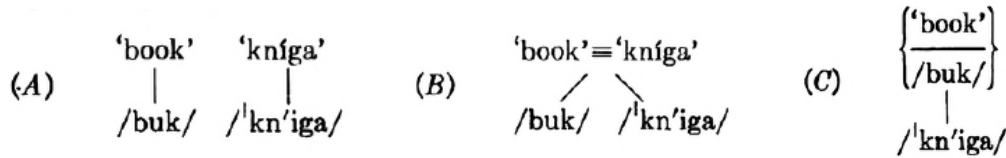


Figure 1: Type A (Weinreich 9)

Figure 2: Type B (Weinreich 9)

Figure 3: Type C (Weinreich 10)

At his time, Weinreich's theory was strikingly innovative and inspired many other linguists to engage in similar research (Field 35). In 1974, five basic models of the bilingual lexicon (shown in Figure 4) were proposed by Meyer and Ruddy.

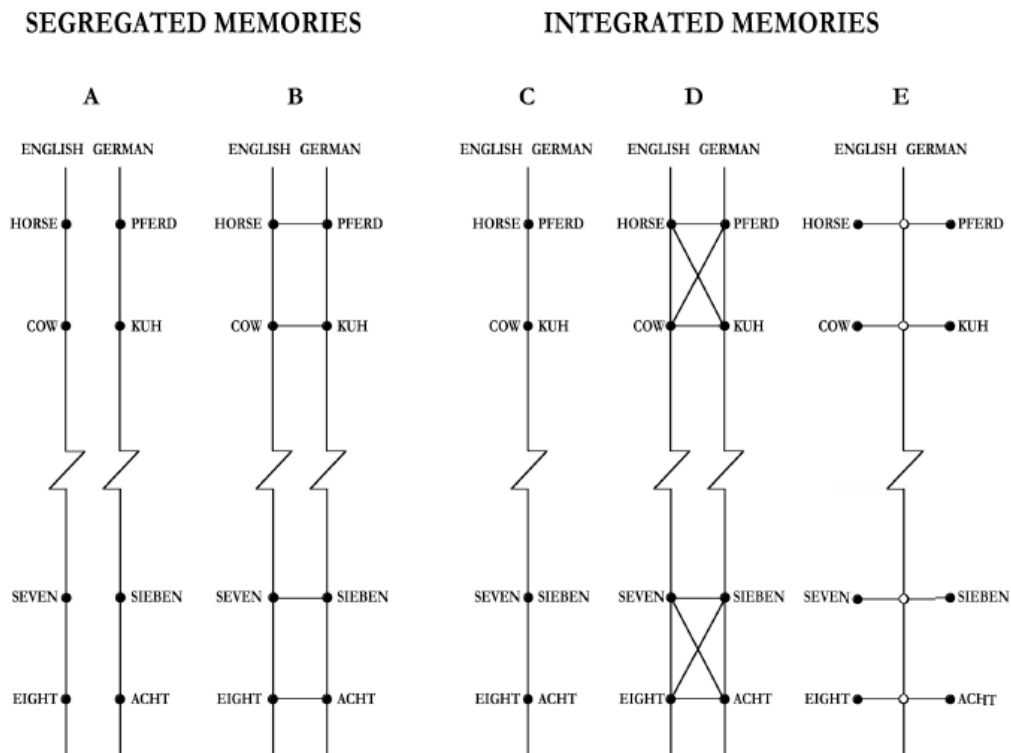


Figure 4: Five models of the bilingual lexicon (Kroll and Tokowicz 533)

Meyer and Rudy's five models, as well as Weinreich's three types, differ essentially in their separating or merging of lexical, semantic, and conceptual representations of the two languages.

In Model A, there are separate representations for words in each language and lexical connections only within but not across languages. (...) Model B maintains separate lexical nodes for words in each language but includes translation links across languages. Model D, like Models A and B, assumes separate lexical representations. However, now there are not only the translation links of Model B, but also cross-language connections to associated words. Model C is an extreme version of the integrated model, with shared lexical nodes and therefore shared semantic relations within and across languages. The final alternative, Model E, assumes shared conceptual representations but separate lexical representations for each language. (Kroll and Tokowicz 532)

Model A, therefore, corresponds to Weinreich's Type A and the notion of two separate mental lexicons is further developed in Model B and Model D. Model E coincides with Weinreich's Type B. Weinreich's idea of indirect relationship between concepts and L2 words is, however, no longer included.

The early research favoured mostly the Model E as it appeared to support both, independence and interdependence, to a certain extent, and thus it seemed to solve the controversial question quite elegantly. However, the early research disregarded all orthographic and phonological aspects of words as well as the possible structural differences in compared languages. Moreover, the impact of potential differences in proficiency was ignored along with speakers' relative language dominance. (Kroll and Tokowicz 532-533)

Further research emphasized the differences of thought processes employed while dealing with different tasks, e.g. reading, listening, or remembering, and resulted in contemporary models which take all of these aspects into account.

Regarding word forms, the **Bilingual Interactive Activation Model (BIA)** was proposed in the 1990s as an extension of the Interactive Activation Model which emphasizes the role of the visual input in language processing. BIA therefore posits that it is the similarity in orthography of different languages (cognates, interlingual homographs, or orthographic neighbours) what epitomizes the cross-linguistic similarities. Later research from the turn of the century however proved that phonology plays a crucial part during word recognition as well. The importance of the phonological factor has been incorporated in the reviewed

BIA+ model or in the **SOPHIA model** (The Semantic, Orthographic and Phonological Interactive Activation Model), both described by Dijkstra and Van Heuven at the beginning of the 21st century. (Kroll and Tokowicz 534-535)

Besides phonology and orthography, attention was paid also to the lexical meaning of translation equivalents. In 1992, the **Distributed Feature Model** was proposed by De Groot and his associates, positing that the adequateness of translation equivalents depends on the word's lexical categories. The Distributed Feature Model claims that the semantic overlap is higher when comparing the translation equivalents of concrete words, whereas the understanding of abstract words seems to depend on provided context. Moreover, the adequateness of translation tends to be evaluated as lower in the case of words with more common translation equivalents than one. These assumptions suggest that (nearly) identical concepts may exist for certain, mostly concrete, words of different languages, whereas other, mostly abstract, words may be connected to distinct concepts in a bilingual mental lexicon. (Kroll and Tokowicz 536-538)

Furthermore, contemporary research suggests, that language processing differs in early and late bilinguals. Other prominent aspects which influence language processing include not only the age of acquisition, but also proficiency. For further information regarding this research see Kroll and Tokowicz 542-548.

1.2.2 Multicompetence framework

The development essential for the study of bilingualism, which emerged from recent transfer research, is the widespread acceptance of a concept originally proposed by Cook (1991) known as the **multicompetence framework**. According to the theory of multicompetence, a bilingual person does not operate with two separate mental lexicons; conversely, bilinguals are supposed to have “a distinct compound state of mind which is not equivalent to two monolingual states” (Jarvis and Pavlenko 17) and their linguistic competencies develop according to their needs (Jarvis and Pavlenko 17).

This theory offers a rationale for confounding a common assumption that the L1 competence is fixed once the speaker matures and therefore that it is only the L2 competence which may be subjected to crosslinguistic influence (Jarvis and Pavlenko 17). This assumption will be challenged in the experiment presented in the second part of this thesis.

1.3 Transfer, crosslinguistic influence, interference

The term **transfer** is usually understood to denote the phenomenon of L1 influence on L2 (Field 181), however, the experiments described in further chapters challenge this premise and posit that under certain circumstances transfer can occur in the other direction as well. Moreover, transfer can also exist between L2 and L3, etc. The terms **forward transfer**, **reverse transfer**, and **lateral transfer** are usually used to distinguish between these types.

As well as bilingualism itself used to be regarded with disdain, since it was thought to be retarding the thought process (Pavlenko, *Bilingual Mind* 4), having been associated mostly with grammatical errors, transfer was originally considered to have mostly negative consequences. Quite an extreme approach to transfer has been introduced by Newmark (1966), who posited that transfer is a mere result of the inability to express oneself in a second language due to the lack of pertinent knowledge of the target language. However, this presumption, sometimes labelled as the **ignorance hypothesis**, was later disproved by other researchers.

When it was discovered that the most frequent consequence of transfer is a quite innocuous preference of particular structures or general underproduction or overproduction of certain sentence types, rather than making errors per se, the attitude towards transfer started to change. Moreover, it was proven that transfer can, in fact, have also positive consequences, as it can serve as a learning strategy and thus accelerates the process of acquiring the target language. (Jarvis and Pavlenko 11)

When the perspective changed and the effects of this phenomenon stopped being perceived as entirely undesirable, Kellerman and Sharwood (1986) proposed the term **crosslinguistic influence** to avoid the negative connotations of the former one. Nowadays, many linguists use both these terms interchangeably with neutral meaning, conversely to the term **interference**, which carries the negative connotation (Jarvis and Pavlenko 1-4). This thesis will likewise follow this precedent.

For further information about the development of transfer research see Jarvis and Pavlenko 10-19, for even more details peruse Odlin's book *Language Transfer: Cross-Linguistic Influence in Language Learning*.

1.3.1 Transfer types

The elaborate research of transfer introduces numerous transfer types. To arrange those various types in an orderly manner, Jarvis and Pavlenko (20) developed the following ten dimensions of transfer categorization:

- a) area of language knowledge/use
- b) directionality
- c) cognitive level
- d) type of knowledge
- e) intentionality
- f) mode
- g) channel
- h) form
- i) manifestation
- j) outcome

Within the first dimension Jarvis and Pavlenko distinguish the majority of traditional transfer types, namely phonological, orthographic, lexical, semantic, morphological, syntactic, discursive, pragmatic, and sociolinguistic transfer (20). As the aim of this thesis is the examination of the crosslinguistic influence in bilinguals' word-to-referent mapping, the focus will be from this point onwards placed exclusively on the lexical and semantic transfer. For further information about the other types, see Jarvis and Pavlenko 61-110, for a description of the other dimensions see Jarvis and Pavlenko 22-26.

Lexical transfer

Lexical (or morphophonological) transfer, or in other words “the influence of word knowledge in one language on a person’s knowledge or use of words in another language” (Jarvis and Pavlenko 72), prevails in transfer research as one of the traditional areas. It refers to the unintended use of an L1 word within the target language’s context and therefore it can account for certain morphophonological and semantic errors such as the use of false cognates, unintentional lexical borrowing resulting in incorrect collocations, and unintended blending of words from different languages (75). However, as Czech and English are phonologically and orthographically very different languages, lexical transfer is less likely to occur

between them (76-77). One of the few mistakes resulting from Czech-English lexical transfer is the use of the Czech word *smoking* instead of the English word *tuxedo*. For examples from other languages see Jarvis and Pavlenko 75.

Semantic transfer

Semantic (or lexicosemantic) transfer is observable in cases of “(a) the use of an authentic target-language word with a meaning that reflects influence from the semantic range of a corresponding word in another language (...) or (b) the use of a calque in the target language that reflects the way a multi-word unit is mapped to a meaning in another language” (Jarvis and Pavlenko 75). This type of transfer is more commonly observable with learners of a language which differs typologically from their native language (76-77). Examples of semantic transfer are therefore very often seen in Czech ESL classrooms. Some of the most common errors resulting from Czech-English transfer are the use of *actual*, *control*, or *gymnasium* instead of *current*, *check*, and *grammar school* (caused by the influence of *aktuální*, *kontrolovat*, and *gymnázium*), respectively. Outside of classrooms we observe for example the use of *home office* with the meaning of *working from home*. As the English collocation is used within the Czech context as it is (with English spelling and pronunciation), Czech speakers of English usually presume it denotes the same concept in English and use it accordingly (and therefore incorrectly). Another manifestation of Czech-English semantic transfer is observable in the case of large numbers. Even though the word for 1,000,000 is almost identical in Czech (*milion/milión*) and in English (*million*), the names for larger numbers differ. For example, *a billion* (or *bilion/bilión* in Czech) is equivalent to 1,000,000,000 in American English¹, but at the same time means 1,000,000,000,000 in Czech. The incorrect use of the word *billion* (or *trillion*, *quadrillion*, etc.) is therefore understood as another result of semantic transfer.

¹ The British English equivalent of 1,000,000,000 is simply *a thousand million*.

2 Word-to-referent mapping

The term word-to-referent mapping refers to the process of assigning names to the distinct parts of extra-linguistic reality – to real-life referents. The process is also commonly referred to as the process of **lexical choice** or **naming** (Pavlenko, *(Re-)naming the World*, 199).

The research of word-to-referent mapping has its roots in the research of linguistic categorization, which has been in the centre of attention of many linguists for decades. Therefore, there are many significant observations of the process to get acquainted with before stating any hypotheses.

2.1 The internal structure of cognitive categories

In 1973, Rosch described the internal structure of cognitive categories. According to her, each category comprises a **core** and a **periphery**, the former being represented by prototypical, the latter by borderline members. In a further study (1976), Rosch and her associates also established the “**basic level of abstraction** that represents the most inclusive level of categorization (e.g. dog, chair) and is situated between the superordinate (e.g. animal, furniture) and subordinate (e.g. retriever, rocker) levels” (Pavlenko, *(Re-)naming the World* 200).

2.2 Conceptualization and construal

Conceptualization is generally understood as a “process of meaning construction”, which is facilitated by the knowledge of a language which enables its users to access the mass of non-linguistic information known as encyclopaedic knowledge (Evans 38).

However, human conceptualization is highly subjective since it invariably reflects the perspective of the language user. The term **focal adjustment** is used to refer to the subjective way of focusing attention on various aspects of the scene. For example, if the speaker focuses on the doer of an action (the agent), active construction is used, conversely, when the focus is placed on what is influenced by the action (the patient), passive is used. The choice of linguistic means which reflects the subjective perspective is what epitomizes the process of **construal**. (Evans 40-42).

Nevertheless, it is not only the syntactic construction of an utterance what is pervaded by construal. Many individual concepts (especially those of an evaluative character) may be framed in multiple ways, each emphasizing contrast with different ones. From the perspective of cognitive linguistics, the most influential aspect in alternative construal of experience is a personal choice (even though limited by convention) to profile certain aspects of concepts against various frames (Divjak 6). For example, the words ‘land’ and ‘ground’ both denote the same concept (the dry surface of the earth), but each of them views it from a different perspective. ‘Land’ is profiled against ‘sea’, whereas ‘ground’ is profiled against ‘air’ (Fillmore 121).

Depending on the perspective, we can observe various construal operations. According to Croft and Cruse, the most comprehensive analyses were offered by Talmy (2000) and Langacker (1987). Nevertheless, for example Fillmore’s frame theory or a very well-known Lakoff and Johnson’s theory of conceptual metaphors do not fit into these classifications despite being based on construal as well (Croft and Cruse 43-44).

2.2.1 Fillmore’s model of frame semantics

According to Croft and Cruse’s publication *Cognitive Linguistics* (2004), the most influential model of conceptualization has been developed by an American linguist Charles J. Fillmore. His model of frame semantics is based on language users’ experience and understanding. As Croft and Cruse further claim, its exceptional merit lies in its capacity to explain subtle nuances in meanings of words that cannot be elucidated by applying theory-driven truth-value judgements, in accounting for “the anomaly of frames that are appropriate at one time of utterance but not at another because the world has changed in the meantime” (Croft and Cruse 12), and in describing differences in meanings of words with regard to the social situation in which they are used (8-18).

The profile-frame distinction can also account for translation issues since the apparent translation equivalents scarcely profile the concepts against identical frames. The translation is extremely problematic in cases of concepts profiled against culture-specific frames (Croft and Cruse 19-21). The phenomenon of differently profiled translation equivalents is outlined for example in the novel *Nesnesitelná lehkost bytí* [*The Unbearable Lightness of Being*] written by Milan Kundera, a novelist who, realizing the issue of framing differences, has

always regarded the translations of his books with utmost caution. Pondering the nuances between English *compassion*, Czech *soucit*, and French *pitié* (Kundera 28), he acknowledges the complexity of the translation equivalency issue and provides his readers with his outlook on labelling human feelings. A less abstract example of differently profiled translation equivalents is epitomised by the expressions ‘tax haven’ and ‘daňový ráj’. While the word ‘haven’ refers to a refuge or a shelter, ‘ráj’ (which usually translates as ‘paradise’) insinuates the desirability of no tax liability. In other words, while English people hide from paying taxes, Czechs rejoice in not having to pay them.² Furthermore, the resemblance of ‘haven’ and ‘heaven’, which denotes a similar concept as ‘paradise’, can result in the usage of a non-standard expression ‘tax heaven’, which can be perceived as an effect of transfer (for the description of the transfer phenomena see Chapter 1.3). Nevertheless, the term ‘tax paradise’, which was most likely created by back-translation, is occasionally used in English to express the aforementioned notion, especially in media.

2.2.2 Profile-frame organization

Later, Langacker solves the problem of subjectivity in using only intuition to identify frames by using a more empirical approach. He distinguishes concepts, concept profiles, and concept bases or domains. A **concept** is what each of these words denotes (assuming concepts and linguistic meanings correlate). The difference between the terms profile and base is illustrated with meanings of words ‘radius’ and ‘circle’. The knowledge of the word ‘circle’ is presupposed for understanding the term ‘radius’ since ‘radius’ can be defined only in terms of the structure of a circle. Hence, the term ‘circle’ is labelled as the **base** (or domain) for understanding the concept **profile**, which refers to the concept denoted by the word in question (Croft and Cruse 14-15; Langacker 183-186).

Since the knowledge of the base is presupposed to defining the word concept denoted by a profile and the base as a complex structure may include many different profiles, it may be concluded, that “the meaning of a linguistic unit must specify both the profile and its base” (Croft and Cruse 15).

² Naturally, it is not only the Czech language which conveys the tax haven concept in this rather positive way. Similar terms exist for example in German (Steuerparadies), Swedish (skatteparadis), or Italian (paradiso fiscale).

Since one base usually includes numerous concept profiles, we see it as a cognitive **domain** serving for the characterization of meanings. We can also observe the correspondence of Langacker's base (or domain) to Fillmore's frame (Croft and Cruse 15-16).

2.2.3 Further extensions of the profile-frame theory

Since the basic profile-frame theory is insufficient to account for all important semantic phenomena by itself, it has been developed in several directions. For instance, linguists distinguish locational and configurational profiles within the space domain; basic and abstract domains; one-dimensional and multi-dimensional domains; and a domain matrix (the combination of different domains presupposed by one concept). Furthermore, the term scope of predication has been established to indicate the part of a domain relevant for understanding a particular concept. Last but foremost various relationships between domains (such as successivity) have been studied to greater detail. Further description of this research may be found in Croft and Cruse (22-27), however, it is beyond the scope of this thesis.

2.3 Bilingual speakers' word-to-referent mapping

The fundamental question of the research of bilinguals' word-to-referent mapping is whether (and how) the process differs depending on which language the speaker is currently using.

2.3.1 Extra-linguistic reality in the research of linguistic relativity

For a long period of time, the research of linguistic relativity had been focused on the grammatical structure of languages and its influence on the perception of space and time as suggested by the results of Whorf's research of Hopi and other exotic languages. Furthermore, the study of external reality described by language was not represented in traditional research sufficiently. The real-life referents were usually reduced to mere images or not considered at all (Pavlenko, *(Re-)naming the World* 198).

However, the scope of the research broadened to include word-to-referent mapping when Labov in 1973 published the results of his picture naming experiment with container drawings, proving that many features, including size, shape, material, and function, influence our conceptualization of the most common items. Furthermore, this study proved that since conceptualization is an extremely complex process, even two speakers of one native language may use different words to name extra-linguistic reality referents. This

phenomenon became known as **referential indeterminacy** (Pavlenko, *Bilingual Mind* 43-44). Labov's study later inspired many other linguists as it laid the groundwork for further research of cross-linguistic influence.

2.3.2 Differing naming patterns in different languages

Inspired by Labov's research, Kronenfeld and his associates (1985) conducted a cross-linguistic study with speakers of English, Japanese, and Hebrew to observe the differences in their conceptualization. They determined that the overriding principle of categorization differs as the speakers' perception of prototypical members of cognitive categories varies. Material and function were proven to be the predominant factors for English speaking participants, whereas Japanese and Hebrew speakers' differentiation was based on shape.

Studies similar to Kronenfeld's were conducted by many other researchers. The more recent ones include for instance Malt and Sloman's study (2003), which examined the cross-linguistic differences in categorization of bottles and jars among speakers of English, Chinese, and Spanish.

2.3.3 Cross-linguistic influence in object naming by L2 learners and bilinguals

When it became clear that the process of conceptualization is slightly different in every language, the focus of the research was broadened to include the word-to-referent mapping of learners of foreign languages and bilingual speakers.

Already in 1986, Graham and Belnap confirmed that cross-linguistic influence was present in the conceptualization of Spanish native speakers – learners of English – who were asked to name various objects in their target language. Further research, focused on bilingual speakers, was conducted for instance by Ameel et al. (2005), who examined the categorization of common vessels by Belgian Dutch-French bilinguals, or Aneta Pavlenko and Barbara C. Malt (2011), whose experiment will be adopted in this thesis and described in the following chapter.

2.3.4 Pavlenko and Malt's Kitchen English

Pavlenko and Malt conducted their picture naming experiment with native speakers of English and Russian and Russian-English bilinguals. During the experiment, described in "Kitchen Russian: Cross-Linguistic Differences and First-Language Object Naming by

Russian–English Bilinguals” (2011), the participants were asked to provide a name for sixty common drinking containers made of various materials and also to evaluate the typicality of three chosen names (mug, cup, and glass for English speakers and kruzhka, chashka, and stakan for Russian speakers and bilinguals) for each object.

The results of Pavlenko and Malt’s experiment were consistent with the findings of previous cross-linguistic research and confirmed the existence of the cross-linguistic differences between English and Russian. Besides positing that “[w]ords commonly taken to be translation equivalents, such as cup/chashka, stakan/glass and mug/kruzhka, may differ substantially in the structure and boundaries of respective linguistic categories” (39), they also described the prevailing principles of naming the drinking containers in both examined languages and evaluated the names given to chosen objects by bilinguals with regard to answers of both monolingual groups.

3 Cups, mugs and glasses vs. šálky, hrnky a sklenice

Recent linguistic research shows that words commonly considered to be equivalent in their meaning (translation equivalents) may differ substantially in their use. Some of these discrepancies may be explained by different levels of abstraction (see Chapter 2.1), some by the model of frame semantics (see Chapter 2.2.1), and others by various cultural differences.

Pavlenko and Malt proved the poor validity of translation equivalents comparing English and Russian names of common kitchen items. They established the key differences in the use of words ‘cup’, ‘mug’, and ‘glass’ and their Russian counterparts and described the cross-linguistic influence observed in Russian-English bilinguals’ drinkware naming. The following chapters will provide a similar comparison of English and Czech names for common vessels.

3.1 English in contrast with Czech

Due to typological differences between Czech and English, a number of aspects need to be considered prior to the attempted research of Czech-English transfer.

3.1.1 Morphology

English and Czech morphology differ substantially in their extent. English morphology is usually defined simply as the part of grammar which is concerned with “the internal structure of words” and “deals with inflections” (Quirk et. al. 12). It may be divided into two branches, derivational and inflectional, however, the latter is rather limited (Carstairs-McCarthy 34) since English is an analytic language. Conversely, the extent of Czech inflectional morphology is so broad that it is commonly considered completely separate while Czech derivational morphology (*slovotvorba*) is regarded to be a part of lexicology (Adam 9). Nevertheless, since our analyses will be concerned with each lexeme as a whole, the differences in word paradigms may be disregarded and the focus placed on derivational morphology.

The morphological aspect which will play the most prominent role in the following analyses is the Czechs’ tendency to create **diminutives**. Nearly every drinkware name which will be mentioned can be used also in its diminutive form. Furthermore, it is not exceptional for one

word (e.g. ‘sklenice’) to have more than one common diminutive form (e.g. ‘sklenka’, ‘sklínka’, ‘sklenička’). The distribution of these variants can be influenced for example by context (see Chapter 3.1.2) or the speakers’ regional dialect (see Figure 5).

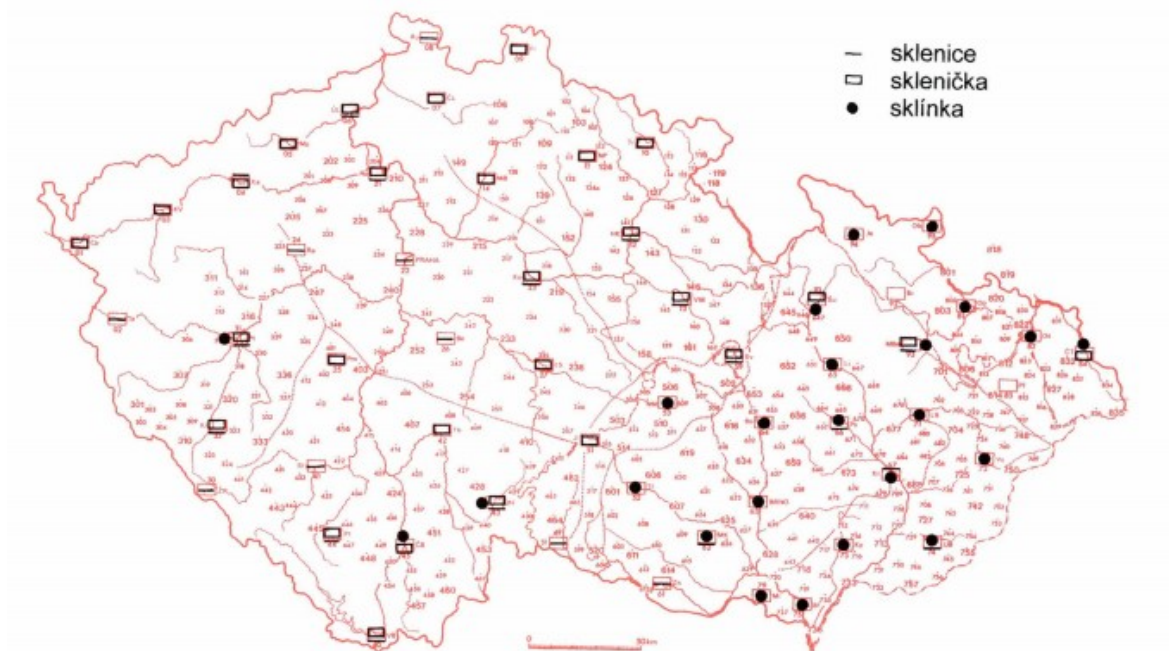


Figure 5: The regional distribution of selected variants of the word ‘sklenice’ (Český jazykový atlas 5 594)

3.1.2 Collocations

One of the most important aspects of lexical choice is context. To illustrate its influence, the examples mentioned above were analysed within the Czech corpus Syn2020 (accessible at <https://www.korpus.cz/kontext>). The word ‘sklenice’ proved to be the most universal, collocating with the widest range of drinks (water, mineral water, lemonade, juice, milk, wine, champagne, whiskey, rum, etc.), whereas the other variants appeared to collocate mostly with alcoholic beverages. The word ‘sklenka’ seems to be associated chiefly with wine, while ‘sklenička’ collocates also with various spirits, even though wine is still its most common complement.

3.1.3 Diglossia

The term diglossia was coined and defined in 1959 by Charles A. Ferguson as follows:

Diglossia is a relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is

a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period or in another speech community, which is learned largely by formal education and is used for most written and formal spoken purposes but is not used by any sector of the community for ordinary conversation. (Ferguson 327)

This concept is not perceptible in English, however, due to certain historical developments, it is extremely prominent in Czech. At the time of the Czech national revival, an archaic version of the language was codified. Nevertheless, as the common people continued to speak as used to, the codified version of the language did not spread. The result of this development is clearly observable in the contemporary Czech language, where Literary Czech (*spisovná čeština*) co-exists with the dominant informal Common Czech (*obecná čeština*)³ (Bermel). Moreover, aside from Common Czech, other highly informal sub-varieties (slang, argot) can be distinguished within the Czech language.

Diglossia, or rather the prominence of informal varieties of Czech, is often reflected in the use of informal word equivalents. Especially within slang, these equivalents are frequently created by univerbation – a spontaneous word-formation process transforming multi-word lexemes into one-word expressions (Hladká pars. 1, 5). To illustrate the process, the word ‘sklenice’ can be used again. As stated above, ‘sklenice’ often collocates with ‘whiskey’. However, the phrase ‘sklenice na whisky’ (a glass for whiskey) is unnecessarily long which does not correspond with the tendency towards linguistic economy. The process of univerbation will be therefore employed to create a shorter expression ‘whiskovka’. The results of the picture-naming experiment (see Chapter 3.4.1 and Appendix B) illustrate the relatively high frequency of univerbated expressions.

3.1.4 Czech-English transfer

Czech-English transfer may be considered a more complex problem because of the different nature of the two languages. However, despite its potential, the mass of research dedicated to this phenomenon is rather limited. To my knowledge, at the time of our research, transfer

³ Common Czech is, however, not used in all the parts of the Czech Republic.

phenomena in Czech-English bilinguals have not yet been explored systematically, therefore, this thesis will attempt to open the discussion about their possible effects.

To understand and describe such a complex phenomenon, the focus must be placed on concrete examples. Hence, in the following chapters, an attempt will be made to shed some light on the particular differences in Czech and English drinkware naming. Common translation equivalents will be examined in terms of their semantic similarity and interchangeability. Finally, a picture naming experiment will be conducted to corroborate the results of the corpus analysis. The uncovered discrepancies will later serve as a measure of possible cross-linguistic influence in Czech-English bilinguals.

3.2 Translation equivalents

In order to prove the complexity of the issue of translation equivalency, some common names of drinkware were analysed within the Treq application (accessible at <https://www.treq.korpus.cz>), which provides information about translation equivalents based on data obtained from one of the parts of the Czech National Corpus – a parallel synchronic corpus InterCorp.

For each language, seven drinkware names were chosen for the analysis. The aim was to choose equivalent names, however, this task proved to be more complicated than expected. As the boundaries of the drinkware categories differ in each language, some words seemed to have more than one translation equivalent while others did not form a separate category in the other language at all. Furthermore, in some cases it was clear that certain names might suggest unintended connotations. Eventually, the approximate translation counterparts were established as follows: cup/šálek, mug/hrnek, glass/sklenička, jar/sklenice, beaker/kelímek, goblet/pohár, jug/džbáněk. Nevertheless, the results of the individual searches (see Table 1 and Table 2) immediately proved the imperfectness of this conclusion.

Since homonymy and polysemy are in English extremely frequent (owing to its analytical nature), plenty of translation equivalents not pertinent to our area of interest appeared during the analysis. This data is presented in grey colour in case of high frequency (>10%) or disregarded when the frequency is low (<10%). Some other drinkware names are included even when the percentage is very low to allow further comparison.

Table 1: Most common Czech translation equivalents of English drinkware names

cup	šálek (40.8%), hrnek (9.9%), pohár (7%), pohárek (4%), kelímek (3%), hrníček (2.9%), kalich (1.4%), kalíšek (1%), číše (0.9%), hrneček (0.9%), sklenice (0.5%), sklenička (0.2%), plecháček (0.1%), korbel (0.1%)
mug	hrnek (24.4%), šálek (5.7%), hrneček (4.1%), hrníček (4.1%), korbel (3.1%), džbánek (2.3%), džbán (1.3%), púllitr (1.1%), sklenice (0.4), džbánček (0.4%), pohár (0.3%), kelímek (0.1%)
glass	sklo ⁴ (21%), sklenice (19.8%), brýle (17.1), skleněný (10.5%), sklenka (8.5%), sklenička (7.9%), pohár (0.8%), číše (0.5%), sklínka (0.3%), kalíšek (0.2%), pohárek (0.2%), hrnek (0.1%), šálek (0.1%), láhev (0.1%)
jar	sklenice (33.8%), nádoba (11.7%), džbán (10.4%), láhev (2.8%), kelímek (2.5%), sklenička (2.5%), nádobka (2.5%), lahvička (2.5%), džbánek (2.1%), lahev (1.7%), hrnek (1.1%), hrneček (0.4%), hrníček (0.1%), sklenka (0.1%)
beaker	pohár (37.5%), kádinka (18.8%), kelímek (6.3%), pohárek (6.3%), karafa (2.1%), lahvička (2.1%), kalíšek (2.1%), číše (2.1%)
goblet	pohár (44.4%), číše (14.3%), pohárek (4.2%), sklenka (3.7%), čiška (0.5%), sklenice (0.5%), nádoba (0.5%)
jug	džbán (51%), džbánek (19.2%), nádoba (2%), demižon (1.5%), hrnek (0.8%), korbel (0.5%), hrneček (0.3%), číše (0.3%)

Table 2: Most common English translation equivalents of Czech drinkware names

šálek	cup (87.3%), teacup (4.9%), mug (2.4%), pot (0.4%), glass (0.3%)
hrnek	cup (53.4%), mug (25.6%), pot (10.6%), glass (1.4%), jar (1.2%), teacup (1.1%), jug (0.5%)
sklenička	drink ⁵ (47.1%), glass (41.9%), nightcap (1.5%), wineglass (1.1%), jar (1.1%), cup (0.5%), bottle (0.4%), tumbler (0.4%), flute (0.1%)
sklenice	glass (78.6%), jar (11.1%), drink (3.4%), cup (0.8%), bottle (0.7%), tumbler (0.6%), wineglass (0.5%), pint (0.3%), pot (0.3%), mug (0.1%), teapot (0.1%), teacup (0.1%)
kelímek	cup (61.2%), jar (10.7%), pot (4.5%), container (2.8%), tumbler (1.7%), beaker (1.7%), glass (0.6%), mug (0.6%)
pohár	cup (29.2%), Cup ⁶ (23.9%), goblet (9.8%), glass (4.4%), beaker (2.1%), chalice (1.9%), tumbler (0.9%), mug (0.2%), jar (0.1%)
džbánek	jug (50%), pitcher (13.6%), jar (10.4%), mug (10.4%), pot (6.5%)

Even though Table 1 does not differ too gravely from the estimate, Table 2 uncovers an interesting fact. The word ‘cup’ was revealed as the most common translation for four of the

⁴ ‘Sklo’ is in Czech primarily used to refer to a type of a material (glass), however, it can be used metaphorically to refer to vessels made of this material as well.

⁵ The high frequency of the word ‘drink’ reflects the metonymical use of the word ‘sklenička’ in phrases similar to an English phrase ‘let’s have a drink’.

⁶ ‘Cup’ with capital C was used when referring to a type of a trophy.

seven chosen Czech names, which may suggest that this word will be more versatile than any other. This assumption, among others, will be later tested via the picture naming experiment.

3.3 Semantic similarity analysis

In the light of the findings presented in the preceding chapter, it is obvious that translation equivalency is not as straightforward as bilingual dictionaries suggest. Further differences between common translation equivalents of Czech and English drinkware names are hinted at by the following analysis of semantic similarity. The charts below illustrate the semantic similarity of English and Czech names for various drinking vessels. The numbers reflect how close their meanings are, therefore, the lower they are, the higher the semantic similarity is.

The data included in the comparison were obtained in February 2020 with the help of an online tool developed by the Slovak Academy of Sciences (accessible at <https://www.juls.savba.sk/semä/>), which is based on data amassed in open-source web corpora (Araneum Anglicum II Minus for the English language and Araneum Bohemicum IV Minus for the Czech language).

Table 3: Semantic similarity of English drinkware names

	cup	mug	glass	jar	beaker	goblet ⁷	jug
cup	-	0.624	0.710	0.658	> 0.725	0.722	0.556
mug	0.624	-	0.655	> 0.683	> 0.683	0.686	0.548
glass	0.710	0.655	-	0.609	0.614	0.644	0.528
jar	0.658	> 0.683	0.609	-	0.547	0.690	0.381
beaker	> 0.725	> 0.683	0.614	0.547	-	> 0.691	0.459
goblet ⁷	0.722	0.686	0.644	0.690	> 0.691	-	0.566
jug	0.556	0.548	0.528	0.381	0.459	0.566	-

⁷ The word ‘goblet’ is commonly translated as ‘pohár’. This word is however usually associated with championship since it also denotes a specific type of a trophy. To avoid the interference of the alternative meaning, another translation equivalent ‘číše’ has been chosen for the subsequent analysis. The same interference has been regarded as negligible in English, where ‘a drinking container’ is still perceived as the primary meaning of the word ‘cup’. Nevertheless, in the context of a competition, ‘pohár’ & ‘cup’ would be recognized as translation equivalents instead of ‘pohár’ & ‘goblet’ and ‘šálek’ & ‘cup’. Incidentally, this case may serve as a further illustration of the issue of imperfect equivalence.

Table 4: Semantic similarity of Czech drinkware names

	šálek	hrnek	sklenička	sklenice	kelímek	číše ⁷	džbáněk
šálek	-	0.376	0.438	0.436	> 0.596	> 0.725	> 0.596
hrnek	0.376	-	0.429	0.351	0.523	> 0.725	0.520
sklenička	0.438	0.429	-	0.235	0.472	0.602	0.375
sklenice	0.436	0.351	0.235	-	0.447	0.626	0.430
kelímek	> 0.596	0.523	0.472	0.447	-	> 0.725	> 0.561
číše ⁷	> 0.725	> 0.725	0.602	0.626	> 0.725	-	0.501
džbáněk	> 0.596	0.520	0.375	0.430	> 0.561	0.501	-

As the tables above show, the semantic similarity is generally higher amongst Czech drinkware names. The highest similarity may be observed between the words ‘sklenička and ‘sklenice’, which is undoubtedly caused by their morphological similarity (‘sklenička’ is a diminutive for ‘sklenice’). Another case of exceptionally high similarity is noticeable between the words ‘hrnek’ and ‘šálek’, whereas the similarity of their usual translation equivalents ‘mug’ and ‘cup’ is below average.

In English, the highest similarity is observable between the words ‘jar’ and ‘jug’. This is, in fact, the only pair of English words with a result lower than 0.4, which may be caused by the fact that both, ‘jar’ and ‘jug’, are prototypically associated with glass. Conversely, the lower similarity between Czech translation equivalents of these words (‘sklenice’ and ‘džbáněk’) may be caused by the fact that different materials are usually associated with prototypes of these vessels (‘sklenice’ is invariably made of glass, ‘džbáněk’ is usually made of ceramic or porcelain). However, as ‘džbáněk’ can be made of glass as well, the similarity between these words is still higher than the average similarity of English drinkware names.

Further research of semantic similarity could explore the collocations that different names form. Providing detailed information about the collocations of all aforementioned drinkware names is, however, beyond the scope of this thesis. Nevertheless, references to frequent collocations will be made in the following chapters to facilitate the discussion of the picture naming experiment results.

3.4 Picture naming experiment

To examine the issue of imperfect translation equivalence as well as the possible cross-linguistic influence, a picture naming experiment has been conducted. The procedure was based on Pavlenko and Malt's experiment conducted in 2011 and described in Chapter 2.3.4.

The objective of the experiment was to determine whether Czech and English names for common drinkware items differ (and to what extent). Furthermore, it was expected to uncover hints of possible cross-linguistic influence in Czech-English bilinguals.

Based on the knowledge of both languages in question, the following hypotheses were proposed:

1. Czech speakers will use a wider variety of names for the objects than English speakers.
2. The respondents' agreement will be higher in English than in Czech.
3. The word 'cup' will be used to name more objects than its common translation equivalent 'šálek'.
4. In comparison with the group of Czech native speakers, Czech-English bilinguals will tend to use a smaller set of object names, which will result in higher recurrence of the same names.

3.4.1 Methodology

To prove (or disprove) the hypotheses above, three questionnaires were created in an online survey administration software (Google Forms) and distributed with the help of personal contacts and social media platforms (especially Facebook) among three groups of respondents. Detailed characteristics of all three groups will be presented in further chapters along with obtained data and their interpretation.

The participants of the experiment were asked to name 60 drinking vessels shown individually in 60 different photographs⁸ (see Appendix A), which included common objects made of different materials (glass, plastic, paper, etc.), prototypes of cups, mugs, and glasses, as well as less common objects, e.g. stimulus 51. In addition to naming the objects, the respondents were requested to use a seven-point Likert scale to indicate their degree of

⁸ The photographs used in the experiment are identical with the photographs used in the original Pavlenko and Malt's experiment. To allow further research, Dr. Pavlenko kindly provided them herself.

certainty that other speakers of the same language would use the same name for each stimulus.

The instructions were to use one-word names which would probably be uttered in an everyday conversation. The respondents were also instructed to avoid overthinking and follow their instincts. The photographs were shown individually and later revision of provided answers was discouraged, however, the survey administration software used did not allow disabling this option.

Some respondents disregarded the instruction to use only one-word names and included various attributes (e.g. material or personal opinions on items' visual aesthetics) in their answers. These attributes were not taken into account in the analysis of the answers (e.g. the answer 'paper cup' was counted as 'cup' as well as 'papírový kelímek' was counted as 'kelímek'). However, multi-word lexemes (e.g. shot glass or measuring cup) were distinguished from their lexical bases.

Orthographical and typographical errors were disregarded, however, phonetical differences ('panák' vs. 'pañák', 'štamprle' vs. 'štamprdle') are recorded in pertinent appendices as well as grammatical variants, e.g. genus ('štamprle' (n.) vs. 'štamprla' (fem.)).

3.4.2 Czech native speakers (control group)

The control group of Czech native speakers consisted of 157 respondents⁹. There were 27 men, 129 women, and one person identifying as genderfluid. The average age of the respondents was 25 years, however, the whole group included participants between the ages of 15 and 61. When asked about their highest level of educational attainment, 18 respondents filled in elementary school, 5 secondary school without the Maturita exam, 90 secondary school with the Maturita exam, 1 professional college, 27 Bachelor's degree, and 16 Master's degree. All respondents were born in the Czech Republic (except for two respondents born in Slovakia) and lived there at the time of the research. Some respondents stated that they

⁹ The questionnaire was filled in by 190 respondents. However, the answers of 25 respondents indicated considerable exposure to English (especially owing to long-term residence in an English-speaking country or the use of English as a primary language of everyday communication). To avoid the interference of other languages, which could compromise the overall results, these respondents have been excluded. Four other respondents have been excluded due to their incomplete answers, four others due to their failure to comply with given instructions.

lived in a foreign country in the past (UK, USA, France, Germany, Switzerland, etc.), but none of these stays exceeded 12 months. The majority of respondents had some knowledge of English (17 respondents rated it as elementary, 34 as intermediate, 62 as upper-intermediate, 34 as advanced, 4 as proficient), only 6 participants stated that they know no English whatsoever. Some respondents also declared knowledge of other languages (German, French, Spanish, Russian, Japanese, etc.) at lower levels of proficiency.

The respondents used a wide variety of names (222 in total, including prototypical names as well as various nonce words), the phenomenon of referential indeterminacy (see Chapter 2.3.1) was, therefore, clearly observable within this group. Dominant names (the most common for at least one object) included 15 words¹⁰, another 18 words¹¹ were employed by more than 5% of the respondents in at least one case.

The most frequently used names were ‘hrnek’, ‘sklenička’, and ‘kelímek’, which altogether covered 42% of all answers. ‘Hrnek’ was the most frequent name for 14 objects¹². All of these objects with the exception of stimulus 25 were made of ceramic materials and the majority of them (except stimuli 4 and 46) had a handle. Surprisingly, also an object made of plastic (stimulus 28) was assigned the name ‘hrnek’ in 43% of cases, supposedly owing to the presence of a handle. ‘Sklenička’ was the most frequent name for 12 objects¹³ made nearly invariably of glass. ‘Kelímek’ was chosen most frequently for 8 objects¹⁴ made of paper, plastic, or styrofoam. Interestingly, the respondents’ agreement was extremely high (over 90%) in most of these cases. A high percentage of other answers was covered by morphological variants of aforementioned names – ‘hrneček’ (6.5%) and ‘sklenice’ (8%).

The images with the highest respondents’ agreement depicted the prototypical members of aforementioned categories. Stimulus 1 was assigned the name ‘hrnek’ (or one of its morphological variants) in 100% of cases, stimulus 42 in 99%. The name ‘sklenička’ (or its variants) was used by 98% of respondents for stimuli 9 and 44, and by 96% of respondents

¹⁰ In alphabetical order: hrneček, hrnek, kalíšek, kelímek, korbel, kornout, miska, odměrka, panák, plecháček, püllitr, sklenice, sklenička, šálek, termohrnek.

¹¹ In alphabetical order: džbán, džbáněk, frťan, hrníček, kalich, kornoutek, mistička, nálevka, pohár, pohárek, sítko, sklenka, stojánek, šampuska, štamprle, termoska, trychtýř, váza.

¹² Stimuli 1, 2, 4, 5, 22, 25, 28, 31, 34, 42, 46, 48, 54, 56.

¹³ Stimuli 6, 11, 14, 21, 30, 36, 38, 40, 41, 44, 50, 58.

¹⁴ Stimuli 7, 17, 23, 27, 32, 35, 43, 49.

for stimulus 6. As mentioned above, the name ‘kelímek’ was connected with high respondents’ agreement as well. It was used (without any variants) in 98% of cases for stimulus 32, in 97% of cases for stimulus 23, and in 96% of cases for stimulus 17.

The exceptionally high respondents’ agreement seems to correlate with a fairly high degree of certainty. On a scale from 1 to 7, the average degree of certainty was 6.35 for stimulus 1 (‘hrnek’), 5.61 for stimulus 9 (‘sklenice’), 5.64 for stimulus 44 (‘sklenička’), and 5.88 for stimulus 32 (‘kelímek’). However, for example stimulus 3 was assigned four different names (‘sklenička’, ‘hrnek’, ‘pohár’, and ‘nerez’), all with utmost certainty, which proves that one’s subjective feeling of certainty hardly guarantees consensus. On the opposite end of the scale, some of the items with the lowest averages were stimulus 3 (3.64), stimulus 4 (3.66), stimulus 14 (3.65), stimulus 19 (3.60), stimulus 26 (3.57), and stimulus 57 (3.63), all related by exceptionally low respondents’ agreement (only 18-35% of the respondents agreed on a dominant name). Overall, the average degree of certainty was 4.71.

The most ambiguous item was, for Czech speakers, stimulus 57 (an egg cup), which was assigned 41 different names. The low consensus was presumably caused by the fact that there is no one-word name in the Czech language which would refer to this object. Most common expressions used to describe it are ‘kalíšek na vajíčko’, ‘pohárek na vajíčko’, and ‘stojánek na vajíčko’, all reflecting its exclusive function. The respondents’ need to mention the function was in some cases satisfied by unverbated nonce words such as ‘vaječníček’, ‘vajíčkováč’, or ‘vajíčkovník’. Other stimuli described by a wider variety of names included especially vessels designated for alcoholic beverages. The item connected with the most variants proved to be a shot glass (e.g. stimuli 8, 18, 24, 60), which is commonly referred to as ‘panák’, ‘štamprle’, ‘frťan’, ‘půlka’, or simply ‘sklenička’ (for numerous phonetical variants see Appendix B.2). Beer glasses are commonly associated with names such as ‘půllitr’, ‘korbel’ or ‘krýgl’, champagne glasses with unverbated expressions such as ‘sektovka’, ‘šampuska’ or ‘šampaňka’ as well as with the counterpart of the English word ‘flute’ – ‘flétna’.

As hinted in Chapter 3.1.1, especially one morphological phenomenon – the Czechs’ tendency to create diminutives – was well reflected in the obtained data. A large amount of the employed names was used along with their diminutive variants and in some cases the

frequency of a diminutive was even higher than the frequency of its lexical base. For example, the diminutive words ‘sklenička’ and ‘džbánek’ were used more often than their lexical bases ‘sklenice’ and ‘džbán’.

Besides diminutivization, univerbation was repeatedly observable in the collected data. As stated in Chapter 3.1.3, univerbated expressions are particularly common within slang. Nevertheless, it is possible that the respondents’ tendency towards univerbation was partly caused by the instruction to use only one-word names. Univerbated expressions were employed especially to include the drink that is associated with a particular vessel (‘šampuska’ for a champagne glass, ‘whiskovka’ for a glass for whiskey, ‘likérka’ for a glass for liqueur, ‘limčovka’ for a glass for lemonade), or to mention the material the vessel is made of (‘plastěnka’ for a plastic glass, ‘papírák’ for a paper cup). However, the frequency of univerbated expressions was considerably lower than the frequency of their base-words, presumably owing to the fact that their use is limited by their specific meaning. Furthermore, their low frequency might have been supported by their informal quality.

For complete data obtained from the Czech control group see Appendix B.2, for only the most common names used for each object see Appendix B.1.

3.4.3 English native speakers (control group)

The control group of English native speakers consisted of 25 respondents¹⁵ (12 men and 13 women) between the ages of 15 and 59 (avg. 30). The participants were born in different parts of the English-speaking world and the majority of them were living in the UK or in the USA at the time of the research. They received different education and reported knowledge of various languages at different levels of proficiency. No one, however, indicated advanced knowledge of Czech.

The total amount of names used by this group of respondents was 49, however, dominant names included only 8 words¹⁶. Another 18 words¹⁷ were used for one object by at least two

¹⁵ The questionnaire was filled in by 29 respondents. However, 4 respondents declared residence in the Czech Republic. Insufficient information about the length and nature of this residence precluded thorough assessment of their exposure to the Czech language and necessitated their removal from the experiment.

¹⁶ In alphabetical order: cone, cup, glass, measuring cup, mug, shot glass, teacup, wineglass.

¹⁷ In alphabetical order: bowl, cocktail glass, champagne glass, eggcup, goblet, flask, flute, jug, martini glass, measuring jug, measuring spoon, paper cup, pot, stein, tankard, teapot, thermos, tumbler.

respondents at the same time. The most frequently used names were ‘cup’, ‘glass’, and ‘mug’, which altogether covered unmatched 72% of all answers. Furthermore, a high percentage of other answers was covered by ‘teacup’ (5%; dominant for stimuli 20 and 29) and ‘shot glass’ (4%; dominant for stimuli 18, 24, and 60). ‘Cup’ proved to be the most universal name, being dominant for 21 objects¹⁸ varying in material, size, and shape. The name ‘glass’ was chosen for 14 objects¹⁹ of different sizes and shapes, but invariably without handles. Not surprisingly, all of these objects were made of glass. ‘Mug’ was chosen as the most frequent name for 15 objects²⁰ made of different materials (including glass) but characterised by the presence of a handle.

An interesting observation was made when stimuli 4 and 34 were compared. Both photographs showed the same object (a green ceramic vessel), but each of them displayed it from a different angle. When the handle was shown (stimulus 34), the object was identified as a mug in 58% of cases (and as a cup in 42% of cases), however, when the object was turned and the handle hidden (stimulus 4), 75% of respondents identified it as a cup and only 21% as a mug. Therefore, a change of shape proved to be a decisive factor in the naming process of English speakers. Conversely, this particular change had no effect on Czech native speakers, nor on Czech-English bilinguals.

Supposedly owing to the low number of commonly used variants, the respondents’ agreement was fairly high in this group. More than half of the participants chose the same name in the majority of cases, moreover, in half of all cases, the respondents’ agreement exceeded 80%.

As well as the respondents’ agreement, the degree of certainty was quite high (avg. 5.28) among this group of respondents. The highest average within this group (6.36) was reached in the case of stimulus 1 and even the lowest average (4.16, stimulus 26) exceeded the median of the seven-point scale.

The most ambiguous items were stimuli 51 (a specifically shaped beer vessel with a handle and a lid) and 55 (a travel mug with heat retention).

¹⁸ Stimuli 2, 3, 4, 7, 13, 14, 15, 17, 23, 26, 27, 28, 32, 35, 37, 40, 43, 46, 49, 55, 57.

¹⁹ Stimuli 6, 8, 9, 11, 21, 30, 33, 36, 38, 44, 47, 50, 53, 58.

²⁰ Stimuli 1, 5, 12, 16, 19, 22, 25, 31, 34, 42, 45, 48, 51, 54, 56.

The answers of the participants were, in most cases, consistent with the answers of Pavlenko and Malt’s corresponding respondent group. The few items where the dominant names differed are recorded in the table below.

Table 5: The discrepancies between Pavlenko and Malt’s results and the present study

	Pavlenko and Malt’s results	Results of the present study
Stimulus 5	cup (70%), mug (25%)	mug (48%), cup (48%)
Stimulus 48	mug (65%), cup (35%)	cup (60%), mug (40%)
Stimulus 52	cup (85%)	cone (48%), cup (44%)
Stimulus 55	mug (45%), cup (20%)	cup (24%), thermos (24%) mug (20%)

For complete data obtained from the English control group see Appendix C.2, for only the most common names used for each object see Appendix C.1.

3.4.4 Czech-English bilinguals (experimental group)

The experimental group consisted of 33 Czech native speakers²¹ (6 men and 27 women between the ages of 25 and 67 (avg. 36) with different educational background²²) who spent at least 5 years living in an English-speaking country. The majority of the respondents were living in the UK or in the USA at the time of the research, nobody returned to the Czech Republic. The average age of arrival to an English-speaking country was 25 years, the average length of residence was 10.5 years. Because of the low number of respondents, no groups of early or late bilinguals were created and all answers were analysed together. The respondents’ level of English knowledge upon arrival differed (5 respondents stated that they knew no English whatsoever, 5 respondents rated their knowledge as elementary, 7 as intermediate, 8 as upper-intermediate, 8 as advanced), however, 32 participants stated that their stay in an English-speaking country had a positive impact on their English skills, only one declared negative influence. The impact on the Czech language level was perceived as positive by 1 participant, as negative by 19 participants. 13 respondents stated that their Czech was not influenced at all. The respondents’ exposure to English was further examined

²¹ The questionnaire was filled in by 60 respondents. However, the answers of 7 respondents indicated insufficient exposure to English and 19 respondents did not provide enough information to allow a valid assessment of their exposure. These respondents have been excluded from the experiment as well as the one participant who failed to comply with given instructions and provided his answers in English.

²² 1 respondent filled in elementary school, 1 secondary school without the Maturita exam, 16 secondary school with the Maturita exam, 2 professional college, 6 Bachelor’s degree, and 7 Master’s degree.

via questions focused on their dominant language in various environments. 26 participants declared living in English-speaking households (only 7 respondents did not have this experience), 11 respondents stated that they studied at an English school (22 did not), and everyone had at least 2 years of experience of working with English speaking colleagues.

The respondents used 84 names in total. Dominant names included 14 words²³, another 24 words²⁴ were employed by more than 5% of the respondents in at least one case. However, it is important to note that 5% stands for only two participants and that all names included in this list were used by the respondents of the Czech control group as well, even though less frequently.

The most frequently used names corresponded with the names used by the Czech control group. ‘Hrnek’, ‘sklenička’, and ‘kelímek’ altogether covered 43% of all answers, ‘hrnek’ being the most frequent name for 14 objects²⁵, ‘sklenička’ for 12 objects²⁶, and ‘kelímek’ for 10 objects²⁷. What differed was the respondents’ agreement. ‘Hrnek’ (or its diminutive variants) was used by 100% of respondents for stimuli 1 and 42, and by 97% of respondents for stimulus 12. ‘Sklenička’ (or its variants) was used by 96% of participants for stimuli 9 and 44, but no other item reached higher agreement than 95%. Conversely, even though the Czech control group’s agreement was exceptionally high in cases of objects named ‘kelímek’, only stimulus 32 was assigned this name by 91% of respondents. In other cases, this name competed with ‘kalíšek’, ‘hrnek’, or ‘sklenička’ more conspicuously than within the Czech control group. Nevertheless, this percentage data might have been distorted by the lower number of the experimental group respondents, where a single person alone accounts for 3.3%.

²³ In alphabetical order: hrnek, hrníček, kelímek, kornout, krýgl, miska, odměrka, panák, půllitr, sklenice, sklenička, šálek, štamprle, termohrnek.

²⁴ In alphabetical order: džbán, džbánek, hrneček, kalich, kalíšek, korbel, kornoutek, měrka, měřítko, mistička, plasták, plecháček, pohár, pohárek, půlka, slánka, sklenka, sklinka, solnička, šampuska, termoska, trychtýř, váza, whiskovka.

²⁵ Stimuli 1, 2, 4, 5, 22, 25, 31, 34, 42, **45**, 46, 48, 54, 56 (stimuli assigned different names by the Czech control group are shown in bold). Stimulus 28, which was regarded as ‘hrnek’ in the Czech control group, was assigned the name ‘kelímek’.

²⁶ Stimuli 6, **8**, 14, **19**, 21, 30, 36, 38, 40, 41, 50, 58 (stimuli assigned different names by the Czech control group are shown in bold). Stimuli 11 and 44, which were regarded as ‘sklenička’ in the control group, were assigned the names ‘panák’ and ‘sklenice’ respectively.

²⁷ Stimuli **3**, 7, 17, 23, 27, **28**, 32, 35, 43, 49 (stimuli assigned different names by the Czech control group are shown in bold).

The overall degree of certainty was fairly high (avg. 5.22) and in the case of stimulus 1 it reached the unmatched average of 6.48. Even the lowest average 4.09 (stimulus 19) exceeded the median of the seven-point scale. All in all, the degree of certainty of the Czech-English bilingual group was higher than the certainty of its monolingual counterpart.

As well as the Czech control group's respondents, Czech-English bilinguals frequently used diminutives. Even though they usually used the same phonetic variants ('hrníček' & 'hrneček', 'sklenka' & 'sklinka' & 'sklínka'), their distribution slightly differed, supposedly owing to the participants' different regional background. Unfortunately, enough data to validate this assumption was not obtained. Besides the phonetic variants, the distribution of the diminutives themselves was compared to the use of their base words, however, major discrepancies were not uncovered. In most cases, both groups favoured the same names, the few cases where the frequency was reversed are shown in the table below.

Table 6: The differences in the distribution of diminutives

	Czech control group		Czech-English bilinguals	
	preferred name	less frequent name	preferred name	less frequent name
Stimulus 4	hrneček (35%)	hrnek (29%)	hrnek (31%)	hrníček (28%)
Stimulus 14	hrnek (13%)	hrneček (11%)	hrneček (22%)	hrnek (13%)
Stimulus 34	hrneček (47%)	hrnek (45%)	hrnek (48%)	hrneček (45%)
Stimulus 44	sklenička (57%)	sklenička (41%)	sklenička (45%)	sklenička (48%)
Stimulus 48	hrneček (51%)	hrnek (39%)	hrnek (58%)	hrneček (33%)

Univerbated expressions were included in Czech-English bilinguals' answers as well, mostly corresponding with the data obtained from the Czech control group. However, a noteworthy occurrence, exclusive for the experimental group, was the word 'longovka', which was used by two different respondents for two different stimuli (33 and 44). The word was presumably created by univerbation – a word-formation process prevalent especially in Czech – from an English expression 'a long drink glass', therefore it may be perceived as epitomizing the effect of Czech and English confluence.

For complete data obtained from the experimental group see Appendix D.2, for only the most common names used for each object see Appendix D.1.

3.4.5 Cross-examination and discussion of the results

Comparing the answers of both control groups makes it clear that different naming patterns are emerging within both examined languages. For some other studies concerned with the research of this phenomenon see Chapter 2.3.2.

All in all, the main difference in Czech and English drinkware naming seems to be the inclusiveness of the respective names. The best example of this phenomenon is the word ‘cup’. As recorded in Appendix A, very different objects²⁸ were assigned the name ‘cup’ by the majority of English speakers, while Czech speakers employed a wide variety of different names (‘hrnek’, ‘kalíšek’, ‘kelímek’, ‘miska’, ‘sklenička’, ‘sklenice’, ‘panák’) for the same set of stimuli. Moreover, variants of the name ‘cup’ – ‘teacup’ and ‘measuring cup’ – were used to describe plenty of other items, usually corresponding with Czech names ‘šálek’ and ‘odměrka’, respectively.

Nevertheless, it was not only the inclusiveness of English names what caused the striking discrepancy between the number of names used by English and Czech speakers. As shown in previous chapters, plenty of phonetical or morphological variants as well as unabbreviated expressions equivalent to simply adjectively pre-modified nouns frequently occurred within both Czech speaking groups.

The wider set of different names, however, resulted in a lower consensus of Czech and Czech-English bilingual participants. Naturally, when the speakers had more choices of frequently used names (or their variants), they favoured different ones and their agreement decreased. Unfortunately, it was not possible to determine the reasons for certain preferences due to the insufficient amount of collected data. Further research would probably uncover which options are more popular with speakers of different social and regional backgrounds as well as with speakers of different ages.

On the other hand, a few items with exceptionally high respondents’ agreement emerged within each group. These items epitomized the prototypes of basic drinkware concepts (‘hrnek’, ‘sklenice’, and ‘kelímek’ in the two Czech speaking groups; ‘cup’, ‘mug’, and ‘glass’ in the English control group), or, in other words, represented the cores of pertinent

²⁸ For example stimuli 2, 3, 7, 13, 14, 15, 17, 23, 26, 27, 57.

cognitive categories, the structure of which was described in Chapter 2.1. Conversely, the items occupying the periphery of the cognitive categories were usually referred to by a number of different names.

Finally, in the light of all these findings, the hypotheses proposed in Chapter 3.4 will be discussed.

1. Czech speakers will use a wider variety of names for the objects than English speakers.

The table below compares the number of names used by each group of respondents. It is clear that Czech speakers as well as Czech-English bilinguals used a wider variety of different names than English speakers.

Table 7: The number of names used by all respondent groups

	Czech natives	English natives	Bilinguals
Total ²⁹	222	49	84
Dominant	15	8	14
> 5%	18	18	24

A prominent factor behind these numbers is the difference in Czech and English morphology described in Chapter 3.1.1. Owing to a large number of Czech derivational suffixes, one Czech word can co-occur with many variants differing from their lexical base in the degree of diminutivization or gender. Furthermore, the word-formation process of univerbation (see Chapter 3.1.3) enables Czech speakers to transform fixed phrases into one-word names. Last but not least, many phonetic variants exist and are considered separate words in our analyses since the differences in pronunciation are reflected in the spelling. In standard English, on the contrary, creating morphological variants is highly unusual and phonetic variants are not distinguishable in writing. Multi-word lexemes, equivalent to Czech univerbated expressions, were recorded, however, their number was considerably lower (e.g. ‘champagne glass’ corresponds to ‘šampuska’, ‘šampusovka’, šampaňka, etc.). Conclusively, these results prove the first hypothesis.

²⁹ Since the number of respondents within the Czech native group (157) was disproportionate to both other groups (25, 33), it is important to note that the total number of names may grow with the increasing number of participants, as it also includes various nonce words.

2. The respondents' agreement will be higher in English than in Czech.

Along with the extent of the variety of employed names, the respondents' agreement differed among the groups. Table 8 and Figure 6 (below) show the number of objects which reached a certain percentage of agreement.

Table 8: The respondents' agreement

	Czech natives	English natives	Bilinguals
< 20%	1	0	3
20-39%	13	2	15
40-59%	22	12	22
60-79%	13	16	11
> 80%	11	30	9

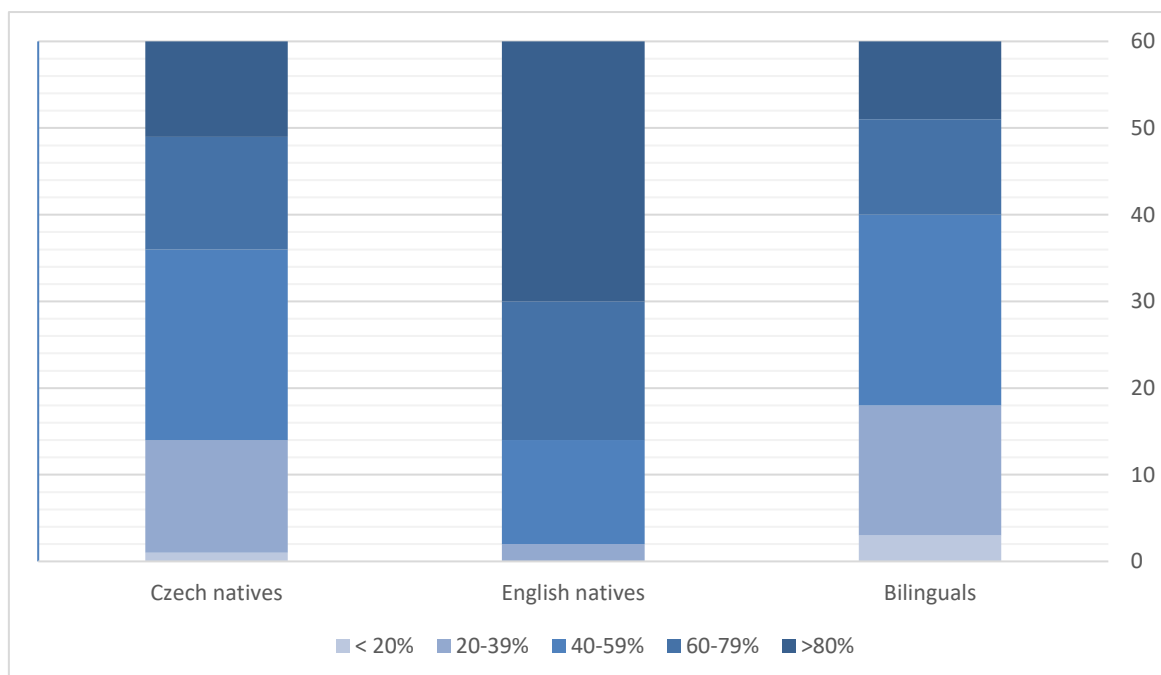


Figure 6: The respondents' agreement

It is evident that the highest degree of respondents' agreement occurred in the group of English native speakers and therefore the second hypothesis was proved to be correct as well. Furthermore, seeing that this group was also characterised as the one with the most restricted name variety, we may assume that the less common choices there are, the higher the agreement will be.

3. The word ‘cup’ will be used to name more objects than its common translation equivalent ‘šálek’.

After comparing the summative and average data it is time to narrow the scope of the analysis. As mentioned above, the English native group used fewer different names to describe all presented objects. It seems to be a logical consequence that these names must have been used more frequently than Czech ones.

As the most frequent name, ‘cup’ was used within the English native group as a dominant name for 21 objects. Moreover, it was used to describe another 20 objects by more than 5% of the respondents at the same time. Therefore, we can conclude that the name ‘cup’ can refer to 41 out of 60 presented vessels (68%). As the objects varied in size (tiny, small, large), material (paper, plastic, styrofoam, ceramic, porcelain, etc.), shape (cylindrical or conic, with or without a handle), and function (drinking hot or cold beverages, eating soup, or even measuring ingredients), we can observe that ‘cup’ is a highly versatile name in English.

Conversely, ‘šálek’, the common translation equivalent of ‘cup’, is a highly specific name. It is usually used for a small ceramic cup of conic shape with a handle which is often accompanied by a saucer and designated for drinking hot beverages, especially tea or coffee. Supposedly owing to its rather restrictive use, it was rarely employed by the majority of respondents. It was used to name only 13 objects (only 2 of which were assigned this name by the majority of the respondents).

All in all, these results prove the third hypothesis as well as the complexity of the issue of translation equivalency described in Chapter 3.2 and Chapter 3.3.

Notably, the name ‘teacup’ occurred as a variant of the name ‘cup’ in all the cases in which Czech (or Czech-English) speakers used the name ‘šálek’. However, even though we can presume that ‘teacup’ and ‘šálek’ are semantically more similar than ‘cup’ and ‘šálek’, their equivalency is still questionable as ‘teacup’ was used far more frequently than ‘šálek’. Nevertheless, no particular tendencies in their distribution were uncovered owing to the limited number of respondents and their insufficient demographic variety.

4. In comparison with the group of Czech native speakers, Czech-English bilinguals will tend to use a smaller set of object names, which will result in higher recurrence of the same names.

Finally, the attention needs to be turned to the differences between the experimental group of Czech-English bilinguals and the Czech control group. Since it was presumed, at the time of forming the hypotheses, that Czech speakers will use a wider variety of names than English speakers, the tendency to use a smaller set of object names was thought to be a possible consequence of the assumed cross-linguistic influence.

As recorded in Table 7 above, Czech-English bilingual group did, in fact, use a smaller set of names than the Czech control group. However, the absolute numbers might be misleading in this case due to the incomparable sizes of both groups. Furthermore, when only the number of dominant names is considered, the difference is rather marginal.

When analysing the expressions themselves, it becomes clear that the majority of the expressions unique for only one of the groups are represented by various phonetic or morphological variants of more frequent names. The only distinct name not mentioned by the experimental group was ‘cibulák’, a name for a porcelain teacup decorated with distinctive ornaments known as the blue onion pattern. Moreover, as the control group was larger, a higher number of various nonce words occurred within it.

To avoid the interference of the size discrepancy, a simple random sample of 33 respondents belonging to the Czech control group was generated. Upon analysing the answers of this sample, 102 different names were discovered (84 different names were used by the 33 Czech-English bilinguals, who comprised the experimental group). Although the difference between the two equally sized groups still appears to be relatively robust and, therefore, suggests that the wider variety of used names was not caused by the wider spectrum of Czech control group’s respondents, any definitive conclusion would need to be supported by an analysis of a larger dataset. As this was not the case, it was impossible to conclusively prove the fourth hypothesis due to the possibly misleading results.

3.4.6 Pearson's chi-squared test

To compare the data obtained from the differently sized Czech control and Czech-English bilingual group, Pearson's chi-squared test was used to evaluate the distribution of the 10 most frequently used names. The result of this test ($\chi^2 = 179.79$ (df = 9), $p < 0.001$) confirmed a significant difference between the answers of the respondents of both groups.

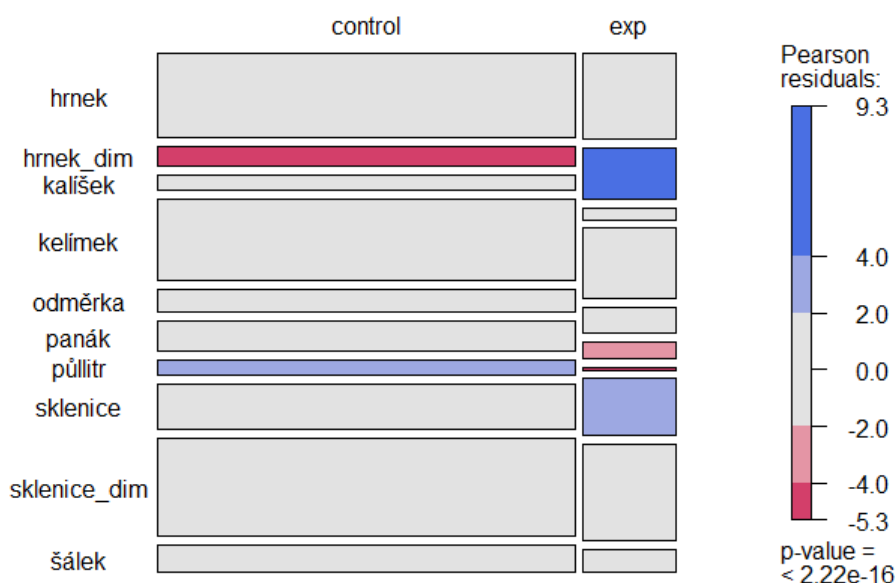


Figure 7: Pearson's chi-squared test results³⁰

Figure 7 (above) shows that the test uncovered significant differences in the use of the names 'hrneček/hrníček', 'panák', 'půllitr', and 'sklenice'. Supposedly owing to the Czech control group's lexical richness, Czech natives used the diminutive variants of the name 'hrnek' less frequently than Czech-English bilinguals. Instead of 'hrneček/hrníček', they used a variety of other names such as 'bucláček', 'cibuláček', or 'plecháček'. The lower frequency of the experimental group's use of the name 'panák' can be seen as a result of their preference of 'štamprle' and its variants. However, due to insufficient data about the participants' regional background and other demographic details, it is impossible to determine what motivated this inclination. Finally, a possible result of cross-linguistic influence is perceivable with the names 'sklenice' and 'půllitr'. Presumably owing to the fact that in English the word 'glass' is used more frequently than a more specific name 'pint', the Czech-English bilingual group

³⁰ The 'hrnek_dim' category comprises all diminutive variants of the name 'hrnek'. Similarly, 'sklenice_dim' comprises diminutive variants of the name 'sklenička'.

seemed to prefer the word ‘sklenice’ to ‘půllitr’. Conversely, the Czech control group tended to use ‘půllitr’ quite frequently and rather freely³¹.

3.4.7 Cluster analysis

To facilitate a clearer grasp of the differences between the Czech control and the Czech-English bilingual group, a cluster analysis of the 15 most frequent lexemes was conducted in R (R Core Team) using the k-means clustering method. During this analysis, seven clusters were created for each group to allow for a visualisation of the discrepancies. Their optimal number was estimated via the average silhouette method, described by Kaufman & Rousseeuw.

As demonstrated by Figure 8 (for full-sized visualizations see Appendix E), the fact that differences exist between these groups is clear at the first glance. However, as the answers compared are all provided in the same language, naturally, there is a number of similarities as well.

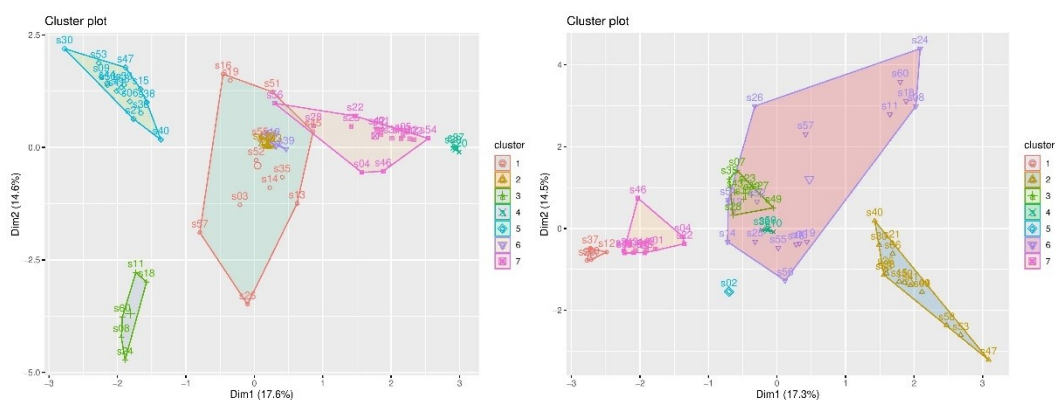


Figure 8: Cluster visualisation (Czech control group on the left, Czech-English bilingual group on the right)

Two cases of perfect correspondence can be observed within the cluster analysis. Stimuli 10, 39, and 59 form a distinct cluster of measuring cups (‘odměrka’)³², identical in both groups. Therefore, we can assume that the inclusion of these objects into the ‘cup’ category, common

³¹ ‘Půllitr’ is a typical Czech name for a vessel with a volume of half a litre (‘půl litru’) designated for drinking beer. It is, prototypically, made of glass and it usually has a handle. However, during the picture naming experiment, this name was used by the Czech native group to describe not only beer glasses without handles, but also vessels made of different materials (plastic, ceramics). In some cases, even the volume was disregarded in the process of naming, despite being the lexical motivation for the name itself.

³² Comprising measuring cups, cluster 6 in the Czech control group’s visualization corresponds to the experimental group’s cluster 4. For their comparison see Appendix E.

for English speakers, did not have any influence on Czech-English bilingual participants of the present study. Similarly, a cluster of glass vessels³³ formed identically within both groups, differing only slightly in the distribution of the diminutive variants (66.6% of diminutives within the Czech control group, 60% of diminutives within the experimental group).

Another distinct cluster, which formed within both groups, was the cluster of paper, styrofoam, and plastic cups referred to by the Czech name 'kelímek'³⁴. However, as more objects were assigned into this cluster by the experimental group, hints of cross-linguistic influence may be observed when comparing the stimuli included. Within the control group, this cluster was occupied exclusively by handleless objects, however, within the experimental group, a plastic cup with a handle (stimulus 28) was also included. As the name 'cup', assigned by the English control group to this object as well as to the other items included in this cluster, is commonly used for vessels of various shapes (with or without handles), it may be concluded that disregarding the presence of the handle when naming this item was, in fact, an effect of transfer. Furthermore, a low styrofoam cup (stimulus 35) was included in this cluster only within the experimental group analysis, despite being named 'kelímek' by both groups (within the control group, the name 'miska' interfered with the unambiguous cluster allocation).

A cluster of objects named 'hrnek'³⁵ was also formed within both groups, however, the one formed within the experimental group appeared to be more restrictive. It included only the items which were assigned the name 'hrnek', while objects named by the diminutives 'hrneček/hrníček' were excluded. Furthermore, vessels made of plastic and glass, included in this cluster by the control group, were assigned to different clusters as well. Conversely, a metal mug (stimulus 45) was included within this cluster only by the experimental group, while the control group insisted on its distinctiveness, calling it 'plecháček'. The experimental group's reluctance to approach all aforementioned objects as parts of one group

³³ Encompassing the majority of glass vessels, cluster 5 in the Czech control group's visualization corresponds to the experimental group's cluster 2. For their comparison see Appendix E.

³⁴ Including paper, styrofoam, and plastic cups, cluster 7 in the Czech control group's visualization corresponds to the experimental group's cluster 3. For their comparison see Appendix E.

³⁵ Consisting of objects named 'hrnek' or 'hrneček/hrníček', cluster 7 in the Czech control group's visualization corresponds to the experimental group's cluster 7. For their comparison see Appendix E.

may be explained by the cross-linguistic influence as well. As opposed to the highly versatile name ‘cup’, the name ‘mug’, which can be used to describe some similar objects, is rather restrictive. It is usually used to refer to large drinking vessels made of ceramic materials and defined by their cylindrical shape with a handle. The mental connection of ‘mug’ and ‘hrnek’ (common Czech-English translation equivalents) could have, therefore, influenced the bilingual speakers to avoid using the name ‘hrnek’ for objects differing from the prototype of ‘mug’.

Conversely, smaller handled vessels made of ceramic materials formed a larger cluster within the experimental group. These objects were named ‘šálek’ or ‘hrneček/hrníček’ and partly corresponded to objects named ‘teacup’ by the English control group. As discussed above, the name ‘šálek’ is used by Czech speakers rather rarely which is reflected in the modest size of these clusters³⁶.

A distinct cluster comprising five very small glasses designated for drinking spirits was formed within the control group³⁷. Interestingly, however, no corresponding group emerged from the experimental group’s analysis. Instead, these objects were included in a large mixed cluster³⁸ of various objects not assigned to any of the aforementioned clusters. Besides shot glasses, these objects included other tiny vessels made of different materials than glass, a glass mug, a porcelain bowl, some large beer vessels (some were included in the ‘glass’ cluster), a travel mug, a cone, and other atypical vessels. A corresponding mixed cluster within the control group³⁹ encompassed a similar set of objects (with the exception of shot glasses included in the distinct cluster mentioned above). In addition, it included the aforementioned low styrofoam cup (stimulus 35) and metal mug (stimulus 45). Conversely, the glass mug (stimulus 25) included in the experimental group’s mixed cluster was not located within it as it was a part of the cluster of mugs. Finally, a cluster containing only one item⁴⁰ was formed within the Czech-English bilingual group. Stimulus 2 was evaluated as

³⁶ Including the few objects named ‘šálek’ or ‘hrneček/hrníček’, cluster 4 in the Czech control group’s visualization corresponds to the experimental group’s cluster 1. For their comparison see Appendix E.

³⁷ Cluster 3 in the Czech control group’s analysis (for its visualisation see Appendix E).

³⁸ Cluster 6 in the experimental group’s analysis (for its visualisation see Appendix E).

³⁹ Cluster 1 in the Czech control group’s analysis (for its visualisation see Appendix E).

⁴⁰ Cluster 5 in the experimental group’s analysis (for its visualisation see Appendix E).

unique enough to represent a whole distinct cluster. Nevertheless, the reason behind this assessment was found too obscure to be unravelled.

All in all, the cluster analysis did shed some more light on the effects of the Czech-English cross-linguistic influence. Once again, the disparity between the highly versatile name ‘cup’ and fairly restrictive ‘mug’ proved to map onto their Czech equivalents ‘kelímek’, ‘šálek’, and ‘hrnek’ rather complicatedly. Consequently, the shift of Czech-English bilinguals’ perception of pertinent items towards the English tendency to use the name ‘cup’ for a greater variety of objects, reflected in their overuse of the name ‘kelímek’, provides evidence for the Czech-English transfer as well as their reluctance to regard cylindrical handled vessels of different materials as members of one category.

Conclusion

Throughout its pages, this thesis investigated the corners of the bilingual mind. It provided an overview of approaches to the bilingual mental lexicon and it concerned itself especially with the processes taking place within the bilingual speakers' minds. The main focus of the thesis was to describe the process of word-to-referent mapping with the emphasis on the inevitable cross-linguistic influence which is observable amongst bilingual speakers.

However, as the cross-linguistic influence is an incredibly complex phenomenon, the scope of the thesis had to be narrowed. The focus was therefore placed exclusively on commonly used drinkware items and the differences in their naming in Czech and in English were examined.

The complexity of the issue of Czech-English translation equivalency of common drinkware names was hinted at by a corpus-based analysis of the most frequent translation choices. The results of the very first analysis already uncovered that the name 'cup' is undeniably the most versatile drinkware name within both considered languages. The translation equivalency issue was further examined by a semantic similarity analysis which revealed that the similarity is generally much higher amongst Czech drinkware names.

To corroborate the results of the corpus analyses and determine the differences in Czech and English word-to-referent mapping of drinkware names, a picture naming experiment was conducted. During this experiment, three groups of respondents (an experimental group of 33 Czech-English bilinguals, a control group of 157 Czech native speakers, and a control group of 25 English native speakers) were asked to name 60 different objects which included prototypical members of various drinkware categories as well as a few uncommon objects.

The results of this experiment uncovered that the main difference between Czech and English drinkware conceptualization is the inclusiveness (or restrictiveness) of the pertinent cognitive categories. The name 'cup' proved to be the most universal, being assigned to a wide variety of objects of different sizes, shapes, and materials.

Based on the results of the picture naming experiment, the following hypotheses were confirmed:

1. Czech speakers will use a wider variety of names for the objects than English speakers.
2. The respondents' agreement will be higher in English than in Czech.
3. The word 'cup' will be used to name more objects than its common translation equivalent 'šálek'.

Nevertheless, owing to the incomparable numbers of Czech native group and Czech-English experimental group's participants, it was impossible to confirm, or reject the last hypothesis.

4. In comparison with the group of Czech native speakers, Czech-English bilinguals will tend to use a smaller set of object names, which will result in higher recurrence of the same names.

Despite the fact that a simple random sample analysis suggested that the broader spectrum of used names was, in fact, not caused merely by the greater number of Czech control group's respondents, this hypothesis was not considered proven due to the risk of compromising the integrity of the research owing to the possibly misleading summative results.

However, Pearson's chi-squared test, which allows for comparing the distribution of categorical variables across samples of different sizes, proved the existence of a significant difference between the Czech control and Czech-English experimental group. Furthermore, it uncovered a possible effect of cross-linguistic influence in the distribution of the names 'sklenice' and 'půllitr'. Further discrepancies and possible transfer effects were revealed by the subsequent cluster analyses, which, again, touched upon the universality of the name 'cup' as opposed to the more restrictive 'mug' category.

Echoes of linguistic theories, introduced in the first part of this thesis, appeared frequently while analysing the results of the present research. For instance, Labov's discovery of referential indeterminacy was well reflected in the data obtained from all respondent groups, as very few items were named with an absolute agreement. Another theoretical concept underlying the results was Rosch's theory of the internal structure of cognitive categories. While the core members of pertinent categories were usually named identically by the majority of respondents, the peripheral items were often regarded with lower degrees of

certainty and called by different names. Moreover, it can be concluded that the most frequently used names were representatives of the basic level of abstraction, whereas more specific (subordinate) names were employed less frequently, as their specificity prevented them from being overused.

In conclusion, the study's original contribution consisted of examining the differences between Czech and English drinkware names and of exploring the possibility of Czech-English cross-linguistic influence, a topic which had not been discussed in previous Czech or English linguistic research. However, this field of study would undoubtedly benefit from more detailed research encompassing a wider demographic variety of respondents. Hopefully, this thesis will open the discussion about Czech-English transfer and facilitate further research of this phenomenon.

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List of Appendices

Appendix A Stimuli

Appendix B Czech native speakers' naming of the stimuli

Appendix C English native speakers' naming of the stimuli

Appendix D Czech-English bilinguals' naming of the stimuli

Appendix E Cluster analysis visualisation

Appendix A



Stimulus 1
mug, hrnek



Stimulus 2
cup, hrnek



Stimulus 3
cup, kalíšek/kelímek



Stimulus 4
cup, hrnek



Stimulus 5
mug, hrnek



Stimulus 6
glass, sklenička



Stimulus 7
cup, kelímek



Stimulus 8
glass, panák



Stimulus 9
glass, sklenice



Stimulus 10
measuring cup, odměrka



Stimulus 11
glass, sklenička/panák



Stimulus 12
mug, hrneček/hrníček



Stimulus 13
cup, miska



Stimulus 14
cup, sklenička



Stimulus 15
cup, sklenice



Stimulus 16
mug, půllitr



Stimulus 17
cup, kelímek



Stimulus 18
shot glass, panák



Stimulus 19
mug, půllitr



Stimulus 20
teacup, šálek



Stimulus 21
glass, sklenička



Stimulus 22
mug, hrnek



Stimulus 23
cup, kelímek



Stimulus 24
shot glass, panák



Stimulus 25
mug, hrnek



Stimulus 26
cup, panák



Stimulus 27
cup, kelímek



Stimulus 28
cup, hrnek/kelímek



Stimulus 29
teacup, šálek



Stimulus 30
glass, sklenička



Stimulus 31
mug, hrnek



Stimulus 32
cup, kelímek



Stimulus 33
glass, sklenice



Stimulus 34
mug, hrnek



Stimulus 35
cup, kelímek



Stimulus 36
glass, sklenička



Stimulus 37
cup, hrneček/hrníček



Stimulus 38
glass, sklenička



Stimulus 39
measuring cup, odměrka



Stimulus 40
cup, sklenička



Stimulus 41
wineglass, sklenička



Stimulus 42
mug, hrnek



Stimulus 43
cup, kelímek



Stimulus 44
glass, sklenička/sklenice



Stimulus 45
mug, plecháček/hrnek



Stimulus 46
cup, hrnek



Stimulus 47
glass, sklenice



Stimulus 48
mug, hrnek



Stimulus 49
cup, kelímek



Stimulus 50
glass, sklenička



Stimulus 51
mug, korbel/krygl



Stimulus 52
cone, kornout



Stimulus 53
glass, sklenice



Stimulus 54
mug, hrnek



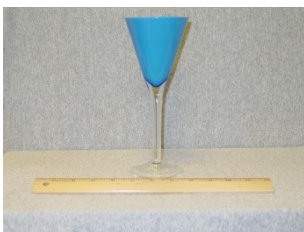
Stimulus 55
cup, termohrnek



Stimulus 56
mug, hrnek



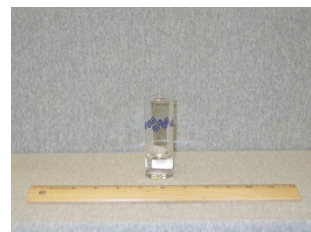
Stimulus 57
cup, kalíšek



Stimulus 58
glass, sklenička



Stimulus 59
measuring cup, odměrka



Stimulus 60
shot glass, panák

Appendix B.1

Czech native speakers' naming of stimuli – most frequent names⁴¹

Stim.	Average DoC (σ)	Answer 1 (Freq. DoC list of names)	Answer 2 (Freq. DoC list of names)	Answer 3 (Freq. DoC list of names)	Answer 4 (Freq. DoC list of names)	Answer 5 (Freq. DoC list of names)
1	6.35 (1.00)	87% 6.48 hrnek	13% 5.56 hrneček hrníček			
2	5.17 (1.33)	40% 5.84 hrnek	36% 4.88 hrneček hrníček	24% 4.49 šálek		
3	3.64 (1.54)	23% 3.38 kalíšek	20% 3.94 kelímek	15% 3.35 plecháček	15% 4.57 sklenička sklenka	5% 3.75 hrnek
4	3.67 (1.58)	35% 4.02 hrneček hrníček	29% 4.11 hrnek	10% 3.40 kalíšek	10% 3.53 šálek	
5	5.02 (1.65)	58% 5.44 hrnek	29% 4.69 hrneček hrníček	6% 4.90 šálek		
6	5.30 (1.48)	77% 5.33 sklenička sklenka sklínka	19% 5.76 sklenice			
7	5.81 (1.36)	94% 5.97 kelímek				
8	4.67 (1.57)	53% 5.05 panák paňák	20% 4.81 sklenička sklínka	11% 3.82 štamprle štamprdle štamprla	7% 4.73 frťan	

⁴¹ This table shows the most frequent names used for each object by the first group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.2). The answers are listed according to their frequency. Morphologically similar names are listed together, and their frequency is summed. Diminutives are, however, considered separate as they often refer to different objects than their lexical bases. Each group of names is listed along with the average degree of certainty (DoC) the respondents stated on a scale from 1 to 7. The average degree of certainty is also calculated for each stimulus as a whole and listed along with the standard deviation (σ). Answers with frequency lower than 5% are not included (for complete data obtained from this group see Appendix B.2), 5% stands for 8 respondents.

9	5.57 (1.27)	50% 5.64 sklenice	48% 5.57 sklenička sklenka sklinka sklínka			
10	4.83 (1.44)	88% 4.96 odměrka	6% 3.78 nálevka			
11	4.06 (1.55)	37% 4.40 sklenička sklenka sklínka	25% 4.03 panák paňák	8% 4.69 štamprle štamprdle	5% 4.38 frťan	5% 3.25 kalíšek
12	4.99 (1.38)	58% 4.92 hrneček hrníček	34% 5.36 hrnek			
13	4.26 (1.54)	38% 4.56 miska	32% 4.18 mistička	15% 4.00 kalíšek	8% 4.17 šálek	
14	3.65 (1.45)	21% 4.12 sklenička sklenka	13% 3.86 kalíšek	13% 3.90 hrnek	11% 3.76 hrneček hrníček	9% 3.93 šálek
15	4.83 (1.48)	42% 5.20 sklenice	31% 4.98 sklenička sklenka sklinka	26% 4.13 kelímek		
16	4.80 (1.64)	65% 5.25 půllitr	9% 4.29 sklenice	6% 4.10 sklenička sklenka		
17	5.72 (1.31)	96% 5.82 kelímek				
18	4.40 (1.54)	38% 4.93 panák paňák	31% 4.27 sklenička sklenka sklínka	6% 4.40 štamprle štamprdle	6% 4.20 frťan	5% 4.38 kalíšek
19	3.60 (1.85)	23% 4.56 půllitr	13% 3.95 hrnek	11% 3.33 korbel	11% 3.00 sklenička sklenka sklinka	7% 3.91 sklenice

20	4.99 (1.46)	64% 5.05 šálek	29% 4.76 hrneček hrníček			
21	4.74 (1.50)	83% 4.84 sklenička sklenka sklínka	8% 4.62 sklenice			
22	4.82 (1.57)	73% 5.19 hrnek	13% 3.67 půllitr	8% 4.83 hrneček hrníček		
23	5.46 (1.46)	97% 5.51 kelímek				
24	4.90 (1.62)	66% 5.09 panák paňák	10% 4.47 sklenička	10% 4.69 štamprle štamprdle šampřla	8% 4.58 frťan	
25	4.54 (1.51)	54% 4.65 hrnek	29% 4.47 hrneček hrníček	11% 4.06 sklenička sklenka		
26	3.58 (1.67)	22% 4.26 panák paňák	20% 3.19 kalíšek	17% 3.35 hrneček hrníček hrňousek	7% 3.91 štamprle štamprdle	6% 5.00 šálek
						5% 4.25 hrnek
27	4.70 (1.49)	90% 4.83 kelímek				
28	4.29 (1.61)	43% 4.36 hrnek	38% 4.58 kelímek	10% 4.06 půllitr		
29	4.92 (1.32)	57% 4.98 šálek	34% 4.87 hrneček hrníček	8% 5.00 hrnek		
30	4.61 (1.52)	43% 4.96 sklenička sklenka	20% 4.48 sklenice	18% 4.79 pohár	7% 4.09 pohárek	
31	5.03 (1.45)	60% 5.11 hrnek	34% 5.20 hrneček hrníček			

32	5.82 (1.48)	98% 5.88 kelímek				
33	5.39 (1.46)	43% 5.82 sklenice	41% 5.39 sklenička sklenka sklínka	13% 4.19 váza		
34	5.10 (1.35)	47% 5.23 hrneček hrníček	45% 5.17 hrnek			
35	4.32 (1.61)	44% 4.54 kelímek	34% 4.11 miska	7% 3.73 mistička	5% 5.00 kalíšek	
36	4.44 (1.47)	75% 4.61 sklenička sklenka sklínka sklínka	12% 4.42 sklenice			
37	4.58 (1.69)	65% 4.71 hrneček hrníček minihrníček	24% 4.57 šálek	5% 4.13 hrnek		
38	4.92 (1.56)	57% 5.19 sklenička sklenka sklínka	17% 5.19 sklenice	17% 4.08 šampuska šampusovka		
39	3.94 (1.82)	68% 4.42 odměrka měrka	6% 4.22 šálek	5% 2.50 hrnek		
40	3.84 (1.53)	42% 4.22 sklenička sklenka sklínka	15% 3.87 sklenice	11% 3.47 panák	6% 3.70 kelímek	6% 4.00 kalíšek
						6% 3.33 pohárek
41	5.01 (1.49)	72% 5.13 sklenička sklenka sklínka	20% 5.10 sklenice			
42	5.68 (1.41)	85% 5.80 hrnek	14% 5.18 hrneček hrníček			

43	5.21 (1.52)	91% 5.29 kelímek				
44	5.54 (1.43)	57% 5.36 sklenička sklenka sklínka	41% 5.91 sklenice			
45	4.60 (1.56)	64% 4.86 plecháček	20% 4.47 hrnek			
46	4.15 (1.48)	32% 4.12 hrnek	28% 4.11 hrneček hrníček	16% 4.72 šálek	12% 4.17 kalíšek	
47	5.11 (1.54)	49% 5.43 sklenice	27% 5.14 sklenička sklenka	18% 5.14 půllitr		
48	5.17 (1.38)	51% 5.15 hrneček hrníček	39% 5.16 hrnek	10% 5.27 šálek		
49	5.34 (1.46)	92% 5.45 kelímek				
50	5.14 (1.49)	71% 5.25 sklenička sklenka sklínka	20% 5.23 sklenice	5% 5.14 pohár		
51	4.19 (1.81)	29% 4.36 korbel	15% 5.04 džbánek	14% 3.45 půllitr	13% 5.00 džbán	6% 3.22 hrnek
52	3.95 (1.87)	28% 4.67 kornout	21% 3.97 kelímek	17% 4.00 kornoutek	9% 3.71 trychtýř	8% 4.62 kalíšek
53	4.46 (1.55)	44% 4.78 sklenice	35% 4.35 sklenička sklenka sklínka	8% 4.00 půllitr	6% 4.56 pohár	
54	4.99 (1.40)	44% 5.16 hrnek	39% 5.08 hrneček hrníček	15% 4.42 šálek		
55	5.10 (1.58)	53% 5.34 termohrněk	39% 5.08 termoska			

56	3.76 (1.65)	29% 4.35 hrnek	16% 4.16 džbáněk	10% 3.75 korbel	6% 3.50 plecháček	6% 3.00 pohár
57	3.63 (1.79)	18% 4.14 kalíšek	16% 4.20 panák paňák	15% 3.70 pohárek pohárka	7% 4.18 kalich	5% 2.88 stojánek
58	4.22 (1.65)	57% 4.36 sklenička sklenka sklínka	20% 4.61 sklenice	6% 3.00 šampuska šampusovka	5% 4.63 pohár	
59	4.14 (1.86)	79% 4.53 odměrka měrka	7% 2.91 sítko			
60	4.61 (1.60)	58% 4.84 panák paňák	21% 4.56 sklenička sklenka	8% 4.31 štamprle štamprdle štamprla	5% 3.88 frťan	

Appendix B.2

Czech native speakers' naming of stimuli – complete⁴²

Stimulus 1	hrnek (87.18%), hrneček (8.97%), hrníček (3,85)
Stimulus 2	hrnek (40.13%), hrneček (24.84), hrníček (11.46%), šálek (23.57%)
Stimulus 3	kalíšek (24.84%), kelímek (20.38%), plecháček (14.65%), sklenička (12.1%), hrnek (5.1%), sklenice (3.82%), nádoba (3.18%), panák (3.18%), sklenka (2.55%), koflík (1.91%), plecháč (1.91%), nádobka (0.64%), nerez (0.64%), odměrka (0.64%), pohár (0.64%), pohárek (0.64%), svíčka (0.64%), štamprle (0.64%), termohrnek (0.64%), váza (0.64%) + unanswered (0.64%)
Stimulus 4	hrnek (28.85%), hrneček (23.72%), hrníček (10.9%), kalíšek (9.62%), šálek 9.62%), kelímek (3.85%), panák (1.92%), keramika (1.28%), panáček (1.28%), sklenice (1.28%), číše (0.64%), kafač (0.64%), koflík (0.64%), květináč (0.64%), mistička (0.64%), nádoba (0.64%), nádobka (0.64%), pinta (0.64%), sklenička (0.64%), starožitnost (0.64%), štamprle (0.64%) + unanswered (1.64%)
Stimulus 5	hrnek (57.69%), hrneček (16.67%), hrníček (12.18%), šálek (6.41%), cibulák (4.49%), porcelán (1.28%), bucláček (0.64%), cibuláček (0.64%)
Stimulus 6	sklenička (67.31%), sklenice (18.59%), sklenka (8.97%), panák (1.28%), frťan (0.64%), hrníček (0.64%), pohárek (0.64), sklínka (0.64%), šálek (0.64%), whiskovka (0.64%)
Stimulus 7	kelímek (93.55%), kalíšek (1.94%), pohárek (1.94%), hrnek (0.65%), hrneček (0.65%), prcek (0.65%), šálek (0.65%)
Stimulus 8	panák (51.28%), sklenička (19.23%), frťan (7.05%), štamprle (7.05%), whiskovka (4.49%), štamprle (3.21%), paňák (1.28%), sklenice (1.28%), sklo (1.28%), panáček (0.64%), panákovka (0.64%), prcek (0.64%), sklínka (0.64%), svícen (0.64%), štamprla (0.64%),
Stimulus 9	sklenice (49.68%), sklenička (43.95%), sklenka (3.18%), frťan (0.64%), sklínka (0.64%), sklínka (0.64%), váza (0.64%), panák (0.64%)
Stimulus 10	odměrka (87.90%), nálevka (5.73%), nádoba (1.27%), džbán (1.27%), džbánek (1.27%), hrnek (1.27%), nádobka (0.64%), odlivka (0.64%)
Stimulus 11	sklenička (31.85%), panák (24.2%), štamprle (6.37%), frťan (5.1%), kalíšek (5.1%), sklenice (4.46%), sklenka (3.82%), svícen (3.82%), miska (1.91%), svícínek (1.91%), štamprle (1.91%), whiskovka (1.91%), panáček (1.27%), sklínka (1.27%), hrnek (0.64%), likérka (0.64%), paňák (0.64%), pohárka (0.64%), stojánek (0.64%), šálek (0.64%), tuplák (0.64%), vázička (0.64%)
Stimulus 12	hrneček (38.46%), hrnek (33.97%), hrníček (19.87%), plecháček (4.49%), šálek (2.56%), porcelán (0.64%)

⁴² This table shows complete data obtained from the first group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.2). The answers are listed according to their frequency (in case of identical frequency alphabetical principle is used). The table disregards morphological similarity of individual answers. The 'unanswered' category includes responses such as 'nevím', 'netuším' ('I don't know'), answers provided in other languages than Czech and various nonsensical answers are excluded altogether.

Stimulus 13	miska (37.82%), mistička (32.05%), kalíšek (14.74%), šálek (7.69%), kelímeček (4.49%), cukřenka (0.64%), hrnek (0.64%), hrníček (0.64%), nádobka (0.64%), sklenice (0.64%)
Stimulus 14	sklenička (18.47%), kalíšek (13.38%), hrnek (12.74%), šálek (8.92%), hrneček (6.37%), hrníček (4.46%), sklenice (4.46%), vázička (4.46%), svícen (3.18%), kelímeček (2.55%), pohárek (2.55%), sklenka (2.25%), nádoba (1.91%), panák (1.91%), fr̂an (1.27%), koflík (1.27%), štamprle (1.27%), váza (1.27%), čajovník (0.64%), číše (0.64%), džbáněk (0.64%), květináč (0.64%), miniváza (0.64%), nádobka (0.64%), panáček (0.64%), sklo (0.64%), svícínek (0.64%), svíčka (0.64%), štamprdle (0.64%)
Stimulus 15	sklenice (42.31%), sklenička (28.21%), kelímeček (25.64%), sklenka (2.56%), plastěnka (0.64%), sklínka (0.64%)
Stimulus 16	půllitr (64.97%), sklenice (8.92%), sklenička (5.1%), hrnek (4.46%), džbáněk (3.18%), krýgl (2.55%), třetinka (2.55%), půllitřík (1.91%), sklenka (1.27%), tuplák (1.27%), čtvrtlitr (0.64%), čtvrtlitrák (0.64%), džbán (0.64%), pivo (0.64%), trojka (0.64%), žejdlík (0.64%)
Stimulus 17	kelímeček (96.15%), kalíšek (1.28%), kelas (0.64%), papírák (0.64%), sklenička (0.64%), kafe (0.64%)
Stimulus 18	panák (37.58%), sklenička (28.66%), fr̂an (6.37%), kalíšek (5.1%), štamprle (5.1%), kelímeček (2.55%), panáček (1.91%), půlka (1.27%), sklenka (1.27%), sklo (1.27%), svícen (1.27%), štamprdle (1.27%), vázička (1.27%), hrneček (0.64%), likérka (0.64%), paňák (0.64%), pohárek (0.64%), sklínka (0.64%), svícínek (0.64%), svíčka (0.64%), svíčkovník (0.64%)
Stimulus 19	půllitr (22.93%), hrnek (13.38%), korbel (11.46%), sklenička (8.28%), sklenice (7.01%), džbáněk (4.46%), pohár (4.46%), hrneček (2.55%), šálek (2.55%), nádoba (1.91%), sklenka (1.91%), číše (1.27%), držák (1.27%), korbelík (1.27%), krýgl (1.27%), džbán (0.64%), holba (0.64%), hrníček (0.64%), kalich (0.64%), kávovka (0.64%), koflík (0.64%), konvička (0.64%), korbílek (0.64%), nálevka (0.64%), obal (0.64%), plecháč (0.64%), plecháček (0.64%), podšálek (0.64%), pohárek (0.64%), polohrnek (0.64%), sklínka (0.64%), třetinka (0.64%), tuplák (0.64%) + unanswered (2.55%)
Stimulus 20	šálek (63.69%), hrneček (16.56%), hrníček (12.74%), hrnek (4.46%), miska (1.27%), kalíšek (0.64%), porcelán (0.64%)
Stimulus 21	sklenička (73.08%), sklenice (8.33%), sklenka (8.33%), panák (2.56%), whiskovka (2.56%), fr̂an (1.28%), sklínka (1.28%), hrnek (0.64%), svícen (0.64%), svícínek (0.64%), štamprdle (0.64%)
Stimulus 22	hrnek (72.61%), půllitr (13.38%), hrneček (4.46%), hrníček (3.18%), korbel (1.27%), tuplák (1.27%), čajovník (0.64%), džbáněk (0.64%), pohár (0.64%), půllitřík (0.64%), varňák (0.64%) + unanswered (0.64%)
Stimulus 23	kelímeček (97.42%), kalíšek (1.29%), kelas (0.65%), polárka (0.65%)
Stimulus 24	panák (65.38%), sklenička (9.62%), štamprle (8.33%), fr̂an (7.69%), panáček (2.56%), půlka (1.28%), štamprdle (1.28%), kalíšek (0.64%), kořtovačka (0.64%), náprstek (0.64%), paňák (0.64%), sklenice (0.64%), štamprla (0.64%)
Stimulus 25	hrnek (53.5%), hrneček (19.11%), sklenička (10.19%), hrníček (9.55%), sklenice (4.46%), čajovka (0.64%), džbáněček (0.64%), půllitr (0.64%), sklenka (0.64%), šálek (0.64%)

Stimulus 26	panák (21.15%), kalíšek (19.87%), hrneček (10.26%), hrníček (5.77%), šálek (5.77%), hrnek (5.13%), štamprle (5.13%), frňan (3.85%), náprstek (3.21%), sklenička (3.21%), šáleček (3.21%), panáček (1.92%), štamprdle (1.92%), pohárek (1.28%), čajovník (0.64%), hrňousek (0.64%), likérka (0.64%), koflíček (0.64%), máslenka (0.64%), paňák (0.64%), porcelán (0.64%), půlka (0.64%), stojánek (0.64%), svícen (0.64%), vaječníček (0.64%) + unanswered (1.28%)
Stimulus 27	kelímeček (90.38%), hrnek (3.85%), kalíšek (1.28%), sklenička (1.28%), lahev (0.64%), plast (0.64%), sklenice (0.64%), školkovka (0.64%), šoufek (0.64%)
Stimulus 28	hrnek (42.95%), kelímeček (37.82%), půllitr (10.9%), hrneček (3.85%), hrníček (0.64%), korbel (0.64%), krýglík (0.64%), plasták (0.64%), plastoch (0.64%), půllitřík (0.64%), šoufek (0.64%)
Stimulus 29	šálek (57.32%), hrneček (21.02%), hrníček (13.38%), hrnek (7.64%), polívkář (0.64%)
Stimulus 30	sklenička (33.12%), sklenice (19.75%), pohár (18.47%), sklenka (10.19%), pohárek (7.01%), číše (4.46%), kalich (1.91%), čajovka (0.64%), čiška (0.64%), hrnek (0.64%), panák (0.64%), pudinkovka (0.64%), šampuska (0.64%), turkoň (0.64%), vaječník (0.64%)
Stimulus 31	hrnek (59.24%), hrneček (25.48%), hrníček (8.92%), šálek (2.55%), keramika (1.91%), kafáč (0.64%), sádlovka (0.64%), sladoch (0.64%)
Stimulus 32	kelímeček (98.09%), kalíšek (0.64%), kelásek (0.64%), plasták (0.64%)
Stimulus 33	sklenice (43.31%), sklenička (35.03%), váza (13.38%), sklenka (5.1%), vázička (1.27%), broušenka (0.64%), sklínka (0.64%), třetinka (0.64%),
Stimulus 34	hrnek (45.22%), hrneček (33.76%), hrníček (13.38%), šálek (4.46%), kafáč (0.64%), kalíšek (0.64%), porcelán (0.64%), pressíček (0.64%) + unanswered (0.64%)
Stimulus 35	kelímeček (43.95%), miska (33.76%), mistička (7.01%), kalíšek (5.1%), květináč (3.18%), pohárek (1.27%), šálek (1.27%), hrnek (0.64%), koflík (0.64%), mísa (0.64%), nádoba (0.64%), nádobka (0.64%), polystyren (0.64%), termokelímeček (0.64%)
Stimulus 36	sklenička (62.18%), sklenice (12.18%), sklenka (10.9%), panák (1.92%), svícen (1.92%), whiskovka (1.92%), kalíšek (1.28%), sklínka (1.28%), boule (0.64%), frňan (0.64%), mistička (0.64%), nádoba (0.64%), rum (0.64%), panáček (0.64%), sklinka (0.64%), svícovka (0.64%), šálek (0.64%), whisky (0.64%)
Stimulus 37	hrneček (35.9%), hrníček (27.56%), šálek (23.72%), hrnek (5.13%), šáleček (3.21%), minihrníček (1.28%), náprstek (1.28%), piccolo (0.64%), prcek (0.64%) + unanswered (0.64%)
Stimulus 38	sklenička (41.4%), sklenice (17.2%), sklenka (15.29%), šampuska (15.29%), sektovka (2.55%), číše (1.91%), flětna (0.64%), pohár (1.27%), šampusovka (1.27%), sklínka (0.64%), šampaňka (0.64%), šampaňská (0.64%), šampaňské (0.64%)
Stimulus 39	odměrka (67.1%), šálek (5.81%), hrnek (5.16%), kalíšek (3.23%), kelímeček (2.58%), hrneček (1.94%), naběračka (1.94%), nálevka (1.94%), měrka (1.29%), mistička (1.29%), čajovka (0.64%), dávkovač (0.64%), koflíček (0.64%), miska (0.64%), nádoba (0.64%), nádobka (0.64%), omáčník (0.64%), pohárek (0.64%), polívkovka (0.64%), sítko (0.64%) + unanswered (1.29%)

Stimulus 40	sklenička (34.84%), sklenice (14.84%), panák (10.97%), kelímek (6.45%), kalíšek (5.81%), pohárek (5.81%), sklenka (5.81%), frťan (2.58%), pohár (2.58%), hrnek (1.29%), sklínka (1.29%), váza (1.29%), vázička (1.29%), hrníček (0.64%), koflík (0.64%), koktejllovka (0.64%), likérka (0.64%), nádoba (0.64%), plecháček (0.64%), šálek (0.64%) + unanswered (0.64%)
Stimulus 41	sklenička (54.49%), sklenice (19.87%), sklenka (16.03%), pohár (2.56%), číše (1.92%), sklínka (1.28%), vínovka (1.28%), červenovka (0.64%), dezertka (0.64%), pohárek (0.64%), víno (0.64%)
Stimulus 42	hrnek (85.35%), hrneček (10.83%), hrníček (3.18%), čajovník (0.64%)
Stimulus 43	kelímek (91.08%), hrnek (3.82%), kalíšek (1.91%), hrníček (0.64%), kelas (0.64%), pohárek (0.64%), polárka (0.64%), sklenička (0.64%)
Stimulus 44	sklenička (52.23%), sklenice (40.76%), sklenka (4.46%), panák (0.64%), sklínka (0.64%), třetinka (0.64%), váza (0.64%)
Stimulus 45	plecháček (64.33%), hrnek (20.38%), hrneček (3.82%), plecháč (3.82%), korbel (3.18%), hrníček (0.64%), koflík (0.64%), krýgl (0.64%), plechovák (0.64%), rendlík (0.64%), škopík (0.64%), žejdlík (0.64%)
Stimulus 46	hrnek (31.61%), hrneček (18.06%), šálek (16.13%), kalíšek (11.61%), hrníček (10.32%), kelímek (1.94%), miska (1.94%), mistička (1.94%), koflík (1.29%), koflíček (1.29%), berlínák (0.65%), čajovník (0.65%), máslenka (0.65%), panák (0.65%), pohárek (0.65%) + unanswered (0.65%)
Stimulus 47	sklenice (49.04%), sklenička (25.48%), půllitr (17.83%), třetinka (2.55%), sklenka (1.91%), limčovka (0.64%), pinta (0.64%), pivovarka (0.64%), půllitřík (0.64%), trojka (0.64%)
Stimulus 48	hrnek (39.1%), hrneček (36.54%), hrníček (14.74%), šálek (9.62%)
Stimulus 49	kelímek (91.56%), sklenička (1.95%), kalíšek (1.3%), sklenka (1.3%), lahev (0.65%), kelas (0.65%), plastěnka (0.65%), plastovka (0.65%), pohárek (0.65%), sklenice (0.65%)
Stimulus 50	sklenička (54.84%), sklenice (20%), sklenka (14.84%), pohár (4.52%), číše (1.29%), pohárek (1.29%), sklínka (1.29%), vínovka (1.29%), číška (0.65%)
Stimulus 51	korbel (29.03%), džbán (15.48%), půllitr (14.19%), džbán (12.9%), hrnek (5.81%), tuplák (3.23%), konvice (2.58%), konvička (1.94%), krýgl (1.94%), džber (1.29%), korbelík (1.29%), nádoba (1.29%), žejdlík (1.29%), čajník (0.65%), divnohrnek (0.65%), dóza (0.65%), holba (0.65%), hrneček (0.65%), kameňák (0.65%), konev (0.65%), konévka (0.65%), puclák (0.65%), soudek (0.65%) + unanswered (1.29%)
Stimulus 52	kornout (27.56%), kelímek (21.15%), kornoutek (16.67%), trychtýř (8.97%), kalíšek (8.33%), čepička (2.56%), čepice (1.92%), pohárek (1.92%), nálevka (1.28%), pohár (1.28%), trychtýřek (1.28%), číška (0.64%), filtr (0.64%), hrnek (0.64%), koflíček (0.64%), kornoutice (0.64%), nádoba (0.64%), panák (0.64%), tubus (0.64%) + unanswered (1.28%)
Stimulus 53	sklenice (43.59%), sklenička (26.28%), půllitr (7.69%), sklenka (7.69%), pohár (5.77%), třetinka (1.92%), pohárek (1.28%), číše (0.64%), flétna (0.64%), kalíšek (0.64%), karafa (0.64%), sklínka (0.64%), šampuska (0.64%), šampusovka (0.64%), trojka (0.64%), váza (0.64%)
Stimulus 54	hrnek (43.95%), hrneček (22.93%), hrníček (16.56%), šálek (15.29%), polívkář (0.64%), ucháč (0.64%)

Stimulus 55	termohrněk (52.56%), termoska (39.1%), kelímek (2.56%), hrnek (1.92%), plecháček (0.64%), pohár (0.64%), remoska (0.64%), termáč (0.64%), termohrníček (0.64%), termokelímek (0.64%)
Stimulus 56	hrnek (29.3%), džbánek (15.92%), korbel (10.19%), plecháček (6.37%), pohár (5.73%), hrneček (4.46%), džbán (3.82%), kalich (3.18%), pohárek (2.55%), púllitr (2.55%), cíňák (1.91%), nádoba (1.91%), hrníček (1.27%), konvička (1.27%), korbílek (1.27%), krýgl (1.27%), nálevka (1.27%), cíňáček (0.64%), číše (0.64%), grál (0.64%), koflík (0.64%), korbělík (0.64%), krýglík (0.64%), plecháč (0.64%), žejdlík (0.64%) + unanswered (0.64%)
Stimulus 57	kalíšek (17.95%), panák (15.38%), pohárek (14.1%), kalich (7.05%), stojánek (5.13%), pohár (4.49%), sklenička (3.85%), kelímek (2.56%), štamprle (2.56%), číše (1.28%), držák (1.28%), panáček (1.28%), podstavec (1.28%), sklenice (1.28%), slánka (1.28%), solnička (1.28%), stojan (1.28%), čiška (0.64%), dubínek (0.64%), dřevo (0.64%), frťan (0.64%), hrneček (0.64%), hrnek (0.64%), hrníček (0.64%), likérka (0.64%), miska (0.64%), na vajíčko (0.64%), nádoba (0.64%), paňák (0.64%), pohárka (0.64%), sklenka (0.64%), stopka (0.64%), štamprlátka (0.64%), štamprlička (0.64%), štamprlika (0.64%), šťopiška (0.64%), vaječníček (0.64%), vajíčko (0.64%), vajíčkovač (0.64%), vajíčkovník (0.64%) + unanswered (1.92%)
Stimulus 58	sklenička (44.87%), sklenice (19.87%), sklenka (10.9%), šampuska (5.77%), pohár (5.13%), číše (3.21%), koktejlka (1.28%), koktejllovka (1.28%), pohárek (1.28%), sklínka (1.28%), flétna (0.64%), kalich (0.64%), likérka (0.64%), nálevka (0.64%), šampusovka (0.64%), štamprla (0.64%), šťopka (0.64%) + unanswered (0.64%)
Stimulus 59	odměrka (78.21%), sítko (7.05%), dávkovač (1.28%), měrka (1.28%), naběračka (1.28%), nádobka (1.28%), čajítka (0.64%), kelímek (0.64%), miska (0.64%), mistička (0.64%), nádoba (0.64%), naběrátko (0.64%), nálevka (0.64%), omáčník (0.64%), panák (0.64%), pánvička (0.64%), síto (0.64%), šálek (0.64%) + unanswered (1.92%)
Stimulus 60	panák (57.05%), sklenička (18.59%), štamprle (6.41%), frťan (5.13%), sklenice (4.49%), sklenka (1.92%), paňák (1.28%), štamprdle (1.28%), šťopiška (1.28%), čtvrtka (0.64%), koštovačka (0.64%), lampička (0.64%), štamprla (0.64%)

Appendix C.1

English native speakers' naming of stimuli – most frequent names⁴³

Stim.	Average DoC (σ)	Answer 1 (Freq. DoC list of names)	Answer 2 (Freq. DoC list of names)	Answer 3 (Freq. DoC list of names)	Answer 4 (Freq. DoC list of names)	Answer 5 (Freq. DoC list of names)
1	6.36 (1.35)	92% 6.30 mug	8% 7.00 cup			
2	5.52 (1.56)	64% 5.25 cup teacup	36% 6.00 mug			
3	5.00 (1.76)	64% 5.56 cup	12% 4.67 glass	8% 3.50 tumbler		
4	4.63 (1.69)	75% 4.56 cup teacup	21% 4.80 mug			
5	5.44 (1.47)	48% 5.33 mug	48% 5.67 cup teacup			
6	5.68 (1.49)	88% 5.73 glass	8% 6.50 cup			
7	5.84 (1.43)	84% 5.81 cup paper cup	8% 6.50 mug			
8	5.72 (1.34)	88% 5.59 glass shot glass				
9	5.88 (1.42)	80% 5.95 glass	20% 5.60 cup			

⁴³ This table shows the most frequent names used for each object by the second group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.3). The answers are listed according to their frequency. Each group of names is listed along with the average degree of certainty (DoC) the respondents stated on a scale from 1 to 7. The average degree of certainty is also calculated for each stimulus as a whole and listed along with the standard deviation (σ). Answers with frequency lower than 5% are not included (for complete data obtained from this group see Appendix C.2), 8% stands for 2 respondents.

10	5.92 (1.44)	52% 5.69 cup measuring cup	44% 6.36 jug measuring jug			
11	5.12 (1.36)	80% 4.95 glass shot glass	8% 6.5 cup			
12	5.88 (1.39)	68% 5.88 mug	32% 5.88 cup teacup			
13	4.40 (1.66)	54% 4.08 cup teacup	42% 5.10 bowl			
14	4.76 (1.64)	75% 5.22 cup eggcup teacup	17% 4.50 glass			
15	5.56 (1.66)	56% 6.00 cup	36% 5.44 glass			
16	4.60 (1.68)	44% 4.82 mug	24% 4.83 glass	14% 3.67 stein		
17	5.76 (1.48)	100% 5.76 cup paper cup				
18	5.44 (1.42)	64% 5.13 glass shot glass	32% 6.00 cup			
19	4.33 (1.90)	50% 4.58 mug	17% 4.25 tankard	13% 4.33 cup	8% 4.50 stein	
20	5.60 (1.41)	92% 5.61 cup teacup				
21	5.32 (1.41)	76% 5.26 glass shot glass	12% 6.00 cup	12% 5.00 tumbler		
22	5.40 (1.53)	92% 5.48 mug				

23	5.40 (1.44)	100% 5.40 cup paper cup				
24	5.80 (1.44)	92% 5.70 glass shot glass				
25	4.96 (1.46)	72% 4.78 mug	28% 5.43 cup teacup			
26	4.16 (1.89)	76% 4.26 cup eggcup teacup	16% 2.75 glass shot glass			
27	5.60 (1.61)	96% 5.71 cup				
28	5.00 (1.59)	63% 4.67 cup	38% 5.56 mug			
29	5.32 (1.46)	88% 5.27 cup teacup	21% 5.67 mug			
30	4.84 (1.43)	84% 4.90 glass wineglass	8% 4.00 goblet			
31	5.40 (1.38)	80% 5.40 mug	20% 5.40 cup teacup			
32	5.68 (1.38)	100% 5.68 cup				
33	5.92 (1.47)	92% 5.91 glass				
34	5.48 (1.50)	58% 6.00 mug	42% 5.20 cup teacup			
35	4.80 (1.68)	60% 4.73 cup	24% 5.00 bowl	8% 5.50 pot		
36	5.08 (1.44)	84% 4.90 glass	12% 5.67 cup			

37	5.08 (1.41)	76% 4.79 cup teacup	24% 6.00 mug			
38	5.54 (1.50)	88% 5.52 glass champagne glass wineglass	13% 5.67 flute			
39	5.04 (1.60)	75% 4.94 cup measuring cup teacup	17% 5.00 measuring spoon			
40	4.96 (1.72)	56% 4.93 glass shot glass	40% 5.00 cup			
41	5.72 (1.43)	96% 5.67 glass wineglass				
42	5.96 (1.37)	92% 5.96 mug	8% 6.00 cup			
43	5.44 (1.42)	96% 5.46 cup				
44	5.76 (1.36)	96% 5.71 glass shot glass				
45	4.96 (1.81)	54% 5.92 mug	29% 4.86 cup	8% 2.50 tankard		
46	5.08 (1.21)	88% 4.95 cup teacup eggcup	13% 6.00 mug			
47	5.44 (1.53)	88% 5.41 glass				
48	5.32 (1.46)	60% 5.20 cup teacup	40% 5.50 mug			
49	5.92 (1.50)	96% 6.00 cup				

50	5.24 (1.36)	92% 5.17 glass wineglass				
51	4.67 (1.61)	25% 5.67 mug	25% 4.83 pot teapot	21% 4.80 stein	13% 4.67 tankard	8% 3.00 jug
52	4.92 (1.61)	48% 5.58 cone	44% 4.27 cup sipping cup			
53	5.08 (1.53)	92% 4.96 glass				
54	5.40 (1.58)	56% 5.79 mug	44% 4.91 cup teacup			
55	5.00 (1.50)	24% 5.17 cup	24% 5.67 thermos	20% 4.40 mug	16% 4.75 tumbler	12% 5.00 flask
56	4.44 (1.73)	48% 5.00 mug	24% 3.67 cup	20% 4.20 tankard	8% 4.00 jug	
57	4.38 (1.84)	75% 4.89 cup eggcup	21% 3.00 goblet			
58	4.92 (1.66)	88% 4.73 glass cocktail glass wineglass martini glass	8% 6.00 cup			
59	5.16 (1.77)	72% 5.33 cup measuring cup	12% 5.33 measuring spoon	8% 4.50 measure	8% 4.00 scoop measuring scoop	
60	5.48 (1.53)	96% 5.42 glass shot glass				

Appendix C.2

English native speakers' naming of stimuli – complete⁴⁴

Stimulus 1	mug (92%), cup (8%)
Stimulus 2	cup (36%), mug (36%), teacup (28%)
Stimulus 3	cup (64%), glass (12%), tumbler (8%), jug (4%), measuring jigger (4%), mug (4%), tin (4%)
Stimulus 4	cup (66.67%), mug (20.83%), teacup (8.33%), pot (4.17%)
Stimulus 5	mug (48%), cup (28%), teacup (20%), china (4%)
Stimulus 6	glass (88%), cup (8%), tumbler (4%)
Stimulus 7	cup (68%), paper cup (16%), mug (8%), shot (4%), shot glass (4%)
Stimulus 8	glass (56%), shot glass (32%), cup (4%), short (4%), shot (4%),
Stimulus 9	glass (80%), cup (20%)
Stimulus 10	measuring cup (40%), jug (32%), cup (12%), measuring jug (12%), pitcher (4%)
Stimulus 11	glass (56%), shot glass (24%), cup (8%), candle holder (4%), short (4%), tumbler (4%)
Stimulus 12	mug (68%), cup (28%), teacup (4%)
Stimulus 13	cup (50%), bowl (41.67%), pot (4.17%), teacup (4.17%)
Stimulus 14	cup (66.67%), glass (16.67%), eggcup (4%), mug (4%), teacup (4%), vase (4%)
Stimulus 15	cup (56%), glass (36%), beaker (4%), tumbler (4%)
Stimulus 16	mug (44%), glass (24%), stein (14%), half a liter (4%), jug (4%), maß (4%), tankard (4%), schooner (4%)
Stimulus 17	cup (84%), paper cup (16%)
Stimulus 18	shot glass (40%), cup (32%), glass (24%), shot (4%)
Stimulus 19	mug (50%), tankard (16.67%), cup (12.5%), stein (8.33%), glass (4.17%), goblet (4.17%), jug (4.17%)
Stimulus 20	teacup (72%), cup (20%), china (4%), mug (4%)
Stimulus 21	glass (72%), cup (12%), tumbler (12%), shot glass (4%)
Stimulus 22	mug (92%), half liter (4%), maß (4%)

⁴⁴ This table shows complete data obtained from the second group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.3). The answers are listed according to their frequency (in case of identical frequency alphabetical principle is used). Multi word lexemes are listed as separate items, for summative percentage see Appendix C.1. The 'unanswered' category includes responses indicating uncertainty about the right name. Answers provided in other languages than English (with the exception of loan words) are excluded altogether.

Stimulus 23	cup (92%), paper cup (8%)
Stimulus 24	shot glass (68%), glass (24%), cup (4%), short (4%)
Stimulus 25	mug (72%), cup (20%), teacup (8%)
Stimulus 26	cup (60%), shot glass (12%), eggcup (8%), teacup (8%), glass (4%), mug (4%), short (4%)
Stimulus 27	cup (96%), tumbler (4%)
Stimulus 28	cup (62.5%), mug (37.5%)
Stimulus 29	teacup (52%), cup (36%), mug (12%)
Stimulus 30	glass (76%), goblet (8%), wineglass (8%), chalice (4%), cup (4%)
Stimulus 31	mug (80%), cup (16%), teacup (4%)
Stimulus 32	cup (100%)
Stimulus 33	glass (92%), cup (4%), tumbler (4%)
Stimulus 34	mug (58.33%), cup (33.33%), teacup (8.33%)
Stimulus 35	cup (60%), bowl (24%), pot (8%), container (4%), tub (4%)
Stimulus 36	glass (84%), cup (12%), tumbler (4%)
Stimulus 37	cup (40%), teacup (36%), mug (24%)
Stimulus 38	glass (45.83%), champagne glass (37.5%), flute (12.5%), wineglass (4.17%)
Stimulus 39	measuring cup (41.67%), cup (29.17%), measuring spoon (16.67%), measure (4.17%), scoop (4.17%), teacup (4.17%)
Stimulus 40	cup (40%), glass (40%), shot glass (16%), tumbler (4%)
Stimulus 41	wineglass (64%), glass (32%), cup (4%)
Stimulus 42	mug (92%), cup (8%)
Stimulus 43	cup (96%), mug (4%)
Stimulus 44	glass (92%), cup (4%), shot glass (4%)
Stimulus 45	mug (54.17%), cup (29.17%), tankard (8.33%), flagon (4.17%), jug (4.17%)
Stimulus 46	cup (70.83%), mug (12.5%), teacup (12.5%), eggcup (4.17%)
Stimulus 47	glass (88%), cup (4%), half a liter (4%), schooner (4%)
Stimulus 48	mug (40%), cup (36%), teacup (24%)
Stimulus 49	cup (96%), tumbler (4%)
Stimulus 50	glass (64%), wineglass (28%), cup (4%), goblet (4%)

Stimulus 51	mug (25%), stein (20.83%), pot (12.5%), tankard (12.5%), teapot (12.5%), jug (8.33%), canister (4.17%), kettle (4.17%)
Stimulus 52	cone (48%), cup (40%), holder (4%), sipping cup (4%) + unanswered (4%)
Stimulus 53	glass (92%), cup (4%), stein (4%)
Stimulus 54	mug (56%), cup (32%), teacup (12%)
Stimulus 55	cup (24%), thermos (24%), mug (20%), tumbler (16%), flask (12%), jug (4%)
Stimulus 56	mug (48%), cup (24%), tankard (20%), jug (8%)
Stimulus 57	cup (50%), eggcup (25%), goblet (20.83%), chalice (4.17%)
Stimulus 58	glass (52%), cocktail glass (16%), wineglass (12%), cup (8%), martini glass (8%), martini (4%)
Stimulus 59	measuring cup (44%), cup (28%), measuring spoon (12%), measure (8%), measuring scoop (4%), scoop (4%)
Stimulus 60	shot glass (64%), glass (32%), cup (4%)

Appendix D.1

Czech-English bilinguals' naming of stimuli – most frequent names⁴⁵

Stim.	Average DoC (σ)	Answer 1 (Freq. DoC list of names)	Answer 2 (Freq. DoC list of names)	Answer 3 (Freq. DoC list of names)	Answer 4 (Freq. DoC list of names)	Answer 5 (Freq. DoC list of names)
1	6.68 (0.70)	87% 6.44 hrnek	13% 6.75 hrneček hrníček			
2	5.61 (1.56)	52% 5.82 hrnek	27% 4.89 šálek	21% 6.00 hrníček hrneček		
3	4.36 (1.73)	24% 5.00 kelímek	15% 4.40 kalíšek	18% 4.50 sklenička sklenka	12% 5.00 hrnek	6% 3.00 plecháček
4	4.44 (1.93)	31% 4.60 hrnek	28% 4.78 hrníček hrneček	9% 5.33 kalíšek	9% 4.67 pohárek	6% 5.50 šálek
5	5.48 (1.25)	70% 5.65 hrnek	18% 4.83 hrníček hrneček	12% 5.50 šálek		
6	5.88 (1.56)	67% 6.18 sklenička sklenka sklínka	18% 6.67 sklenice	6% 1.50 whiskovka		
7	5.53 (1.76)	69% 6.18 kelímek	13% 4.75 kalíšek	6% 3.50 hrnek		
8	5.39 (1.69)	30% 5.90 sklenička sklenka sklínka	30% 5.30 štamprle štamprdle štamprdlík štamprla	24% 4.88 panák	6% 5.50 půlka	6% 6.50 sklenice

⁴⁵ This table shows the most frequent names used for each object by the third group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.4). The answers are listed according to their frequency. Morphologically similar names are listed together, and their frequency is summed. Diminutives are, however, considered separate as they may refer to different objects than their lexical bases. Each group of names is listed along with the average degree of certainty (DoC) the respondents stated on a scale from 1 to 7. The average degree of certainty is also calculated for each stimulus as a whole and listed along with the standard deviation (σ). Answers with frequency lower than 5% are not included (for complete data obtained from this group see Appendix D.2), 6% stands for two respondents.

9	5.94 (1.32)	48% 6.13 sklenice	48% 5.69 sklenička sklenka sklinka			
10	5.30 (1.63)	91% 5.57 odměrka měrka				
11	4.88 (1.75)	30% 4.90 panák	27% 5.11 sklenička sklenka	18% 5.33 štamprle štamprdlík štamprla	9% 5.33 půlka	
12	5.67 (1.22)	64% 5.52 hrníček hrneček	33% 6.00 hrnek			
13	5.15 (1.37)	58% 5.16 miska	33% 5.27 mistička misečka			
14	4.66 (1.41)	25% 4.75 sklenička sklenka	22% 4.43 hrneček hrníček	13% 4.75 hrnek	9% 5.00 pohárek 9% 4.33 šálek	6% 4.00 váza
15	5.52 (1.30)	48% 5.31 sklenice	30% 6.2 sklenička sklenka	15% 5.40 kelímek		
16	5.27 (1.33)	52% 5.47 půllitr	24% 5.63 krýgl	15% 4.20 sklenice		
17	5.76 (1.41)	84% 6.00 kelímek	6% 4.00 pohár			
18	5.30 (1.47)	33% 5.64 štamprle štamprdle štampeška štamprdlík	27% 5.33 sklenička sklenka	24% 5.25 panák	6% 5.50 půlka	
19	4.09 (1.84)	18% 5.17 sklenička sklenka sklinka	15% 3.40 půllitr	15% 3.20 sklenice	9% 4.00 hrnek	9% 4.00 krýgl

20	5.19 (1.71)	59% 5.47 šálek	34% 4.64 hrníček hrneček	6% 5.50 hrnek		
21	5.33 (1.51)	67% 5.41 sklenička sklenka sklínka sklílnka	15% 4.80 sklenice	6% 6.50 panák		
22	5.30 (1.47)	67% 5.36 hrnek	18% 4.83 půllitr	6% 4.50 krýgl		
23	5.70 (1.53)	88% 5.72 kelímek	6% 7.00 kalíšek	6% 4.00 plastřák		
24	5.36 (1.64)	36% 5.50 panák	36% 5.83 štamprle štamprdle štamprla štamprdlik	15% 3.60 sklenička	9% 6.33 půlka	
25	5.18 (1.47)	33% 5.64 hrnek	24% 4.88 sklenička sklenka	18% 4.50 hrníček hrneček		
26	4.74 (1.84)	22% 4.57 hrníček hrneček	19% 4.83 panák	16% 4.80 kalíšek	16% 5.20 štamprle štamprdle štamprdlik	10% 6.00 půlka
						6% 3.00 hrnek
27	5.30 (1.81)	82% 5.30 kelímek	6% 7.00 kalíšek	6% 5.00 pohárek	6% 4.00 sklenice	
28	4.97 (1.59)	45% 4.87 kelímek	18% 5.00 hrnek	12% 4.00 půllitr	6% 6.50 hrníček	6% 5.00 plastřák
29	5.48 (1.46)	48% 5.56 šálek	33% 5.45 hrneček hrníček	18% 5.33 hrnek		
30	4.79 (1.56)	42% 4.86 sklenička sklenka sklínka	27% 4.78 sklenice	6% 4.00 kalich	6% 6.50 pohár	6% 3.50 štamprdlik štamprle
					6% 4.00 pohárek	

31	5.21 (1.47)	64% 5.24 hrnek	30% 5.50 hrneček hrníček			
32	5.61 (1.56)	91% 5.57 kelímek				
33	5.30 (1.63)	36% 5.58 sklenice	36% 5.92 sklenička sklenka sklinka	21% 4.43 váza		
34	5.27 (1.53)	48% 5.31 hrnek	45% 5.33 hrneček hrníček			
35	4.91 (1.51)	58% 5.11 kelímek	27% 4.22 miska	9% 6.67 kalíšek		
36	4.88 (1.73)	76% 5.04 sklenička sklenka sklinka sklínka	15% 5.00 sklenice	6% 3.50 whiskovka		
37	5.00 (1.70)	70% 4.96 hrníček hrneček	27% 5.11 šálek			
38	5.36 (1.52)	55% 5.78 sklenička sklenka sklinka	27% 4.78 sklenice	15% 5.00 šampuska		
39	5.00 (1.82)	85% 5.29 odměrka měrka	9% 3.67 měřítko			
40	5.00 (1.50)	45% 5.53 sklenička sklenka	18% 4.67 sklenice	6% 4.50 váza	6% 5.00 štamprdik štamprle	
41	5.52 (1.73)	54% 6.11 sklenička sklenka	39% 5.00 sklenice			
42	5.91 (1.40)	85% 5.82 hrnek	15% 6.40 hrneček hrníček			

43	5.55 (1.58)	79% 5.62 kelímek	12% 4.50 hrnek	6% 7.00 kalíšek		
44	5.79 (1.54)	48% 5.69 sklenice	48% 5.88 sklenička sklenka			
45	5.24 (1.68)	52% 5.65 hrnek	24% 5.38 plecháček	6% 6.00 hrneček		
46	5.06 (1.52)	42% 4.86 hrnek	24% 5.38 hrneček hrníček	15% 5.80 kalíšek	6% 5.50 miska	6% 5.50 šálek
47	5.42 (1.52)	39% 5.15 sklenice	24% 6.00 půllitr	21% 5.29 sklenička sklenka	6% 6.50 krýgl	
48	5.48 (1.62)	58% 4.89 hrnek	33% 6.36 hrneček hrníček	9% 6.00 šálek		
49	5.58 (1.71)	73% 5.38 kelímek	6% 5.50 plastřák	6% 6.50 sklenice	6% 7.00 sklenička sklenka	
50	5.45 (1.64)	54% 6.00 sklenička sklenka	36% 4.75 sklenice			
51	4.64 (1.78)	19% 4.00 krýgl	16% 5.80 džbánek	13% 6.25 korbel	13% 3.75 půllitr	6% 4.00 džbán
						6% 4.00 kalich
						6% 6.50 kalíšek
52	4.79 (2.19)	39% 5.00 kornout	30% 5.90 kelímek	9% 5.67 kornoutek	6% 4.50 kalíšek	6% 2.50 trychtýř
53	5.03 (1.81)	50% 4.75 sklenice	28% 5.67 sklenička sklenka sklínka	6% 6.00 pohár	6% 3.00 půllitr	
54	5.67 (1.59)	58% 5.84 hrnek	30% 6.20 hrneček hrníček	12% 3.50 šálek		

55	4.78 (1.98)	34% 5.09 termohrněk	25% 4.75 termoska	16% 3.60 hrněk	9% 4.67 kelímek	
56	4.45 (1.82)	24% 4.13 hrněk	12% 5.50 džbáněk	12% 3.50 kalich	9% 5.33 pohár	6% 4.00 korbelík korbílek
57	4.31 (1.93)	19% 5.50 štamprle štamprdle štamprlíčka štamprdlik	13% 4.50 kalíšek	13% 5.50 pohár	13% 3.50 slánka solníčka	6% 4.50 panák
						6% 4.50 pohárek
58	5.16 (1.66)	55% 5.65 sklenička sklenka sklínka sklílnka	32% 4.40 sklenice	10% 6.00 pohár		
59	5.13 (2.06)	88% 5.57 odměrka měrka				
60	5.38 (1.84)	31% 5.40 štamprle štamprdle štamprdlik štamprla	31% 5.90 panák	13% 6.25 půlka	6% 4.50 panákovka	6% 4.50 sklenice
						6% 4.50 sklenička

Appendix D.2

Czech-English bilinguals' naming of stimuli – complete⁴⁶

Stimulus 1	hrnek (87.10%), hrneček (9.68%), hrníček (3.23%)
Stimulus 2	hrnek (51.52%), šálek (27.27%), hrníček (15.15%), hrneček (6.06%)
Stimulus 3	kelímek (24.24%), kalíšek (15.15%), hrnek (12.12%), sklenička (9.09%), sklenka (9.09%), plecháček (6.06%), hrníček (3.03%), nádoba (3.03%), nádobka (3.03%), odměrka (3.03%), panák (3.03%), pohárek (3.03%), sklenice (3.03%), šálek (3.03%),
Stimulus 4	hrnek (31.25%), hrníček (18.75%), hrneček (9.38%), kalíšek (9.38%), pohárek (9.38%), šálek (6.25%), kafáč (3.03%), kelímek (3.13%), květináč (3.13%), nádoba (3.13%) + unanswerd (3.13%)
Stimulus 5	hrnek (69.7%), hrníček (12.12%), šálek (12.12%), hrneček (6.06%)
Stimulus 6	sklenička (51.52%), sklenice (18.18%), sklenka (9.09%), sklínka (6.06%), whiskovka (6.06%), panák (3.03%), pohárek (3.03%), štamprle (3.03%)
Stimulus 7	kelímek (68.75%), kalíšek (12.5%), hrnek (6.25%), koflík (3.13%), sklenka (3.13%), šálek (3.13%), štamprle (3.13%)
Stimulus 8	panák (24.24%), sklenička (21.21%), štamprle (18.18%), půlka (6.06%), sklenice (6.06%), sklenka (6.06%), štamprle (6.06%), panákovka (3.03%), sklínka (3.03%), štamprlík (3.03%), štamprla (3.03%)
Stimulus 9	sklenice (48.48%), sklenička (36.36%), sklenka (9.09%), pohárek (3.03%), sklínka (3.03%)
Stimulus 10	odměrka (84.85%), měrka (6.06%), měřítko (3.03%), nádoba (3.03%), sklenice (3.03%)
Stimulus 11	panák (30.3%), sklenička (21.21%), štamprle (12.12%), půlka (9.09%), sklenka (6.06%), frťan (3.03%), náprstek (3.03%), pohárek (3.03%), štamprlík (3.03%), štamprla (3.03%), whiskovka (3.03%) + unanswerd (3.03%)
Stimulus 12	hrníček (42.42%), hrnek (33.33%), hrneček (21.21%), šálek (3.03%)
Stimulus 13	miska (57.58%), mistička (30.30%), hrneček (3.03%), hrníček (3.03%), kelímek (3.03%), misečka (3.03%)
Stimulus 14	sklenička (21.88%), hrneček (12.5%), hrnek (12.5%), hrníček (9.38%), pohárek (9.38%), šálek (9.38%), váza (6.25%), kalíšek (3.13%), květináč (3.13%), půlka (3.13%), sklenice (3.13%), sklenka (3.13%), svícínek (3.13%)
Stimulus 15	sklenice (48.48%), sklenička (24.24%), kelímek (15.15%), sklenka (6.06%), plastřák (3.03%), pohárek (3.03%)
Stimulus 16	půllitr (51.52%), krýgl (24.24%), sklenice (15.15%), hrnek (3.03%), hrníček (3.03%), sklenka (3.03%)

⁴⁶ This table shows complete data obtained from the last group of respondents (for detailed description of the group and the analysis of the results see Chapter 3.4.4). The answers are listed according to their frequency (in case of identical frequency alphabetical principle is used). The table disregards morphological similarity of individual answers. The 'unanswerd' category includes responses such as 'nevím', 'netuším' ('I don't know'), answers provided in other languages than Czech and incomplete answers are excluded altogether.

Stimulus 17	kelímek (84.38%), pohár (6.25%), hrnek (3.13%), kalíšek (3.13%), šálek (3.13%)
Stimulus 18	panák (24.24%), sklenička (24.24%), štamprle (21.21%), půlka (6.06%), štamprdle (6.06%), kelímek (3.03%), panákovka (3.03%), sklenice (3.03%), sklenka (3.03%), štampekla (3.03%), štamprdlík (3.03%),
Stimulus 19	půllitr (15.15%), sklenice (15.15%), sklenička (12.12%), hrnek (9.09%), krýgl (9.09%), čajovník (3.03%), držák (3.03%), kafáč (3.03%), kalich (3.03%), kalíšek (3.03%), konévka (3.03%), korbel (3.03%), korbelík (3.03%), pohár (3.03%), pohárek (3.03%), sklenka (3.03%), sklínka (3.03%) + unanswered (3.03%)
Stimulus 20	šálek (59.38%), hrníček (21.88%), hrneček (12.5%), hrnek (6.25%)
Stimulus 21	sklenička (51.52%), sklenice (15.15%), sklenka (9.09%), panák (6.06%), půlka (3.03%), sklínka (3.03%), sklínka (3.03%), svícen (3.03%), štamprdlík (3.03%), whiskovka (3.03%)
Stimulus 22	hrnek (66.67%), půllitr (18.18%), krýgl (6.06%), kyblík (3.03%), hrneček (3.03%), hrníček (3.03%)
Stimulus 23	kelímek (87.88%), kalíšek (6.06%), plastřák (6.06%)
Stimulus 24	panák (36.36%), štamprle (24.24%), sklenička (15.15%), půlka (9.09%), štamprdle (6.06%), fir'an (3.03%), štamprla (3.03%), štamprdlík (3.03%)
Stimulus 25	hrnek (33.33%), sklenička (18.18%), hrníček (12.12%), sklenice (9.09%), hrneček (6.06%), sklenka (6.06%), kafáč (3.03%), krýgl (3.03%), panák (3.03%), pohárek (3.03%), štamprdlík (3.03%)
Stimulus 26	panák (19.35%), hrníček (16.13%), kalíšek (16.13%), půlka (9.68%), hrneček (6.45%), hrnek (6.45%), štamprdle (6.45%), štamprle (6.45%), náprstek (3.23%), stojánek (3.23%), šálek (3.23%), štamprdlík (3.23%)
Stimulus 27	kelímek (81.82%), kalíšek (6.06%), pohárek (6.06%), sklenice (6.06%)
Stimulus 28	kelímek (45.45%), hrnek (18.18%), půllitr (12.12%), hrníček (6.06%), plastřák (6.06%), kalíšek (3.03%), krýgl (3.03%), pohárek (3.03%), sklenice (3.03%),
Stimulus 29	šálek (48.48%), hrneček (18.18%), hrnek (18.18%), hrníček (15.15%)
Stimulus 30	sklenička (30.3%), sklenice (27.27%), sklenka (9.09%), kalich (6.06%), pohár (6.06%), pohárek (6.06%), číše (3.03%), kalíšek (3.03%), sklínka (3.03%), štamprdlík (3.03%), štamprle (3.03%)
Stimulus 31	hrnek (63.64%), hrneček (21.21%), hrníček (9.09%), kafáč (3.03%), šálek (3.03%)
Stimulus 32	kelímek (90.91%), kalíšek (3.03%), plastřák (3.03%), pohárek (3.03%)
Stimulus 33	sklenice (36.36%), sklenička (27.27%), váza (21.21%), sklenka (6.06%), kelímek (3.03%), longovka (3.03%), sklínka (3.03%),
Stimulus 34	hrnek (48.48%), hrneček (24.24%), hrníček (21.21%), kafáč (3.03%), šálek (3.03%)
Stimulus 35	kelímek (57.58%), miska (27.27%), kalíšek (9.09%), pohárek (3.03%), šálek (3.03%)
Stimulus 36	sklenička (54.55%), sklenice (15.15%), sklenka (15.15%), whiskovka (6.06%), nádoba (3.03%), sklínka (3.03%), sklínka (3.03%)
Stimulus 37	hrníček (36.36%), hrneček (33.33%), šálek (27.27%), štamprdlík (3.03%)

Stimulus 38	sklenička (42.42%), sklenice (27.27%), šampuska (15.15%), sklenka (9.09%), flétna (3.03%), sklínka (3.03%)
Stimulus 39	odměrka (81.82%), měřítko (9.09%), luhovač (3.03%), měrka (3.03%), šálek (3.03%)
Stimulus 40	sklenička (39.39%), sklenice (18.18%), sklenka (6.06%), váza (6.06%), kalíšek (3.03%), kelímek (3.03%), panák (3.03%), pohár (3.03%), pohárek (3.03%), půlka (3.03%), svícen (3.03%), štamprdlík (3.03%), štamprle (3.03%) + unanswered (3.03%)
Stimulus 41	sklenice (39.39%), sklenička (39.39%), sklenka (15.15%), pohár (3.03%), vínovka (3.03%)
Stimulus 42	hrnek (84.85%), hrneček (12.12%), hrníček (3.03%)
Stimulus 43	kelímek (78.79%), hrnek (12.12%), kalíšek (6.06%), pohár (3.03%)
Stimulus 44	sklenice (48.48%), sklenička (36.36%), sklenka (12.12%), longovka (3.03%)
Stimulus 45	hrnek (51.52%), plecháček (24.24%), hrneček (6.06%), cíňák (3.03%), ešus (3.03%), kalich (3.03%), korbel (3.03%), nádoba (3.03%), plecháč (3.03%)
Stimulus 46	hrnek (42.42%), hrneček (15.15%), kalíšek (15.15%), hrníček (9.09%), miska (6.06%), šálek (6.06%), kelímek (3.03%), koflík (3.03%)
Stimulus 47	sklenice (39.39%), půllitr (24.24%), sklenička (12.12%), sklenka (9.09%), krýgl (6.06%), pohár (3.03%), půlliterka (3.03%), trojka (3.03%)
Stimulus 48	hrnek (57.58%), hrneček (24.24%), hrníček (9.09%), šálek (9.09%)
Stimulus 49	kelímek (72.73%), plastřák (6.06%), sklenice (6.06%), kalíšek (3.03%), pohár (3.03%), pohárek (3.03%), sklenička (3.03%), sklenka (3.03%)
Stimulus 50	sklenička (39.39%), sklenice (36.36%), sklenka (15.15%), pohár (3.03%), pohárek (3.03%), vínovka (3.03%)
Stimulus 51	krýgl (18.75%), džbán (15.63%), korbel (12.5%), půllitr (12.5%), džbán (6.25%), kalich (6.25%), kalíšek (6.25%), džber (3.13%), hrnek (3.13%), korbelík (3.13%), tuplák (3.13%), žejdlík (3.13%) + unanswered (6.25%)
Stimulus 52	kornout (39.39%), kelímek (30.3%), kornoutek (9.09%), kalíšek (6.06%), trychtýř (6.06%), cedítka (3.03%), trychtýřek (3.03%) + unanswered (3.03%)
Stimulus 53	sklenice (50%), sklenička (15.65%), sklenka (9.38%), pohár (6.25%), půllitr (6.25%), odměrka (3.13%), sklínka (3.13%), třetinka (3.13%) + unanswered (3.13%)
Stimulus 54	hrnek (57.58%), hrneček (24.24%), šálek (12.12%), hrníček (6.06%)
Stimulus 55	termohrnek (34.38%), termoska (25%), hrnek (15.63%), kelímek (9.38%), láhev (3.13%), nádoba (3.13%), pohár (3.13%), sklenice (3.13%), termos (3.13%)
Stimulus 56	hrnek (24.24%), džbán (12.12%), kalich (12.12%), pohár (9.09%), hrneček (3.03%), kalíšek (3.03%), cíňák (3.03%), číše (3.03%), džbán (3.03%), korbel (3.03%), korbelík (3.03%), korbílek (3.03%), krýgl (3.03%), krýglík (3.03%), nálevka (3.03%), plecháček (3.03%), sklenice (3.03%), šálek (3.03%)
Stimulus 57	kalíšek (12.5%), pohár (12.5%), panák (6.25%), pohárek (6.25%), slánka (6.25%), solnička (6.25%), štamprle (6.25%), štamprdle (6.25%), kalich (3.13%), koflík (3.13%), na vajíčko (3.13%), sklenice (3.13%), sklenka (3.13%), stojánek (3.13%), stopka (3.13%), štamprlička (3.13%), štamprdlík (3.13%) + unanswered (6.25%)

Stimulus 58	sklenička (41.94%), sklenice (32.26%), pohár (9.68%), sklenka (6.45%), sklinka (3.23%), sklínka (3.23%), stopka (3.23%)
Stimulus 59	odměrka (84.38%), měrka (3.13%), měridlo (3.13%), měřítko (3.13%), sítko (3.01%) + unanswered (3.13%)
Stimulus 60	panák (31.25%), štamprle (15.63%), půlka (12.5%), štamprdle (9.38%), panákovka (6.25%), sklenice (6.25%), sklenička (6.25%), fíťan (3.13%), pohárek (3.13%), štamprdlik (3.13%), štamprla (3.13%),

Appendix E

Czech control groups' cluster analysis visualisation



Czech-English bilingual groups' cluster analysis visualisation

