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**ПОСЛЕДСТВИЯ БИЛИНГВИЗМА:
ПЕРЕКЛЮЧЕНИЕ КОДА И ИСТОЩЕНИЕ ЯЗЫКА[©]**

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Аннотация. Двуязычие (билингвизм) – распространяющееся явление, особенно в связи с ускорением темпов миграции в эпоху глобализации. В обзорной статье предпринимается попытка очертить феномен двуязычия в современной языковой ситуации. В статье обозреваются результаты актуальных исследований по переключению языковых кодов во время коммуникации, изучению иностранных языков и языковому источению (language attrition). В частности, описывается содержание понятия «двуязычие» и рассматриваются социальные и психологические аспекты билингвизма. Согласно анализируемым источникам, одним из наиболее важных факторов формирования билингвизма является возраст, в котором происходит освоение иностранного языка. В соответствии с этим тезисом, можно рассматривать различные уровни билингвизма в зависимости от возраста человека и степени освоенности им родного и иностранного языков в повседневной жизни. Результаты исследований, проводимых с применением модели матрицы языкового фрейма (the Matrix Language Frame model), свидетельствуют о том, что в речевой коммуникации билингва наблюдается «противостояние» доминирующего и подчиненного языков.

Ключевые слова: билингвизм; языковое наследие; истощение языка; переключение кода; симультаный билингвизм; рамочная модель матричного языка.

Поступила: 06.12.2022

Принята к печати: 17.01.2023

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The effects of bilingualism: code-switching and language attrition[©]

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Abstract. Bilingualism is a growing phenomenon, especially with the increasing rates of migration in our era of globalization. The purpose of this review article is to shed light on bilingualism in general and its effects in particular. As it covers the most relevant results from international scholars on code-switching, language acquisition, and language attrition, this study may serve as a useful foundation for future studies. The review investigates two contexts of bilingualism: sociological and psychological, and gives insight into the concept of bilingualism and what it entails. According to the findings, the age at onset of bilingualism is one of the key elements in language acquisition. This concept indicates that there are varying levels of bilingualism depending on age and L1 and L2 practice in daily life. Furthermore, with the help of the Matrix Language Frame model, in various experiments, the dominant language was detected as opposed to the subordinate one. We believe that there is a need for further research on bilingualism.

Keywords: bilingualism; heritage language; language attrition; code-switching; simultaneous bilingualism; Matrix Language Frame model.

Received: 06.12.2022

Accepted: 17.01.2023

Introduction

Bilingualism is a catchall term which refers to many different situations which may be related but have distinct differences between them. Broadly speaking however, bilingualism is defined as a situation wherein a person is able to speak two languages at a native or near-native level. They may have grown up in a multilingual country which has multiple official languages. They may have been born into a multilingual family, they may be the children of immigrants, speaking one

language at home as children but communicating with their friends and teachers at school in another language. They may be professionals who learned a language in adulthood and work in this language. However, despite the large amount of work done on bilingualism, researchers are still conflicted as to who exactly is bilingual. Is a child of immigrants, who speaks the language of their mother and father, but not to a very high level, a bilingual? Do we only count as bilingual those people who grew up speaking two languages? What about a professional interpreter who learned Spanish at university and works professionally in both Spanish and English? Is this person bilingual, even if they didn't grow up speaking two languages? The role of bilingualism in society has been thoroughly studied by numerous scientists from countless angles. What role does bilingualism play in society? Do those who speak two languages as children of immigrants have an advantage in society or, because they speak a prestige language along with a less prestigious language, do they actually suffer from discrimination? Do bilingual children lose their bilingualism when they begin attending school and go to work? When a person speaks two languages, how do these two languages influence each other? By undertaking a full review of the empirical literature on this topic, we will attempt to shed some light on these important questions.

Literature overview

Language context

We will start from a linguistic point of view. When a person speaks two languages, how do these two languages influence each other? Aiming to study the role of identity on language, and demonstrating fascinating facts about bilingualism in general, a study by M. Cychosz analyzes the speech of 22 adolescents and focused on the vowels /y/, /ø/, and /œ/ [Cychosz, 2018]. The relevance of the study comes from the fact that the adolescents were divided into: monolingual French (9), bilingual with Arabic (6) and bilingual with Bantu (7). By using sociolinguistic interviews to study the subjects' language use, M. Cychosz found that the monolingual group followed a different pattern compared to the two bilingual groups. He also highlighted different patterning between the two bilingual groups, but stated that the most impressive and significant difference is between the monolingual group and the bilingual ones.

Such findings imply that the social division between the dominant ethnicity and the minorities, exists also in the phonetics of the spoken language. As has been stated by S. Ahn, Ch.B. Chang, R. DeKeyser, and S. Lee-Ellis, most immigrant children in a monolingual environment tend to lose or limit their use of their heritage language. This is a great loss, not only because linguistic diversity is something that a society ought to strive towards, but this limiting of one's heritage language can carry a heavy economic toll as well. A study of bilingual immigrant children entering adulthood in the United States done by O. Agirdag at Ghent University showed that, on average, balanced bilinguals entering the job market in their 20's earned 2100–3300 dollars a year more than their peers who had fully assimilated and forgotten their native languages [Agirdag, 2014].

An article by L. Ortega, also in the sphere of sociology, examines whether people who are living in a different lexical environment than their society, carry this heritage of bilingualism [Ortega, 2020]. Several scholars [García, Tupas, 2019; Leeman, King, 2014; Loza, 2017; Shin, Hudgens, 2017; Valdes, 2017; Wilson, Martínez, 2011], raise their voices and claim that research into heritage bilingual development must be informed by the sociopolitical realities and the specialties of the learning experiences of HL speakers and their minoritized communities. It has been observed that heritage speakers exhibit a higher level of variability in the use of their heritage languages. The environment that a bilingual child is raised in also plays a large role in the retention or loss of bilingualism. A study conducted among Latino immigrant parents and their children in a small northeast US town [Surrain, 2018] found that parents of second-generation immigrant children are well aware of the advantages of bilingualism and try to support this in several ways, including by implementing Spanish-only policies while at home and outsourcing English development to the school system. Additionally, a series of case studies conducted by representatives of three Pakistani universities of Pakistani immigrant families in Germany found that parents and grandparents of immigrant children were extremely keen for their children to be bilinguals and even multilinguals. Compared to the past, these are encouraging developments. Despite this, it has been difficult to determine the level of L1 proficiency that is eventually retained by heritage speakers. T. Karayayla and M.S. Schmid emphasize that when it comes to L1, late bilinguals vary from heritage speakers in two ways.

First, once the speaker reaches puberty, age of onset ceases to be a factor. Second, late bilinguals show a more stable proficiency of L1 [Karayayla, Schmid, 2018]. However, even in late bilingualism, phonological categories have been demonstrated to be more susceptible to crosslinguistic influence [L2 immersion … , 2016; de Leeuw, Schmid, Mennen, 2010; Hopp, Schmid, 2013]. What is significant about L. Ortega's research, though, is the fact that it has great potential to improve the whole procedure of studying the human capacity for language, starting from child bilingualism research, critical language education and migration studies.

Age factor

Continuing the investigation into child bilingualism, an article by P. Schultz and A. Grimm [Schulz, Grimm, 2019] investigated whether monolingual acquisition interacts with age of onset and input effects in child bilingualism. After their research they have noted that age and timing in L1 acquisition are very important factors and in fact only the impact of timing could account for pace and success of acquisition.

On the same topic, the work by D. Birdsong, analyzes the features of second-language acquisition and bilingualism from the point of view of age as well as the previous and also from the fields of variability and plasticity [Birdsong, 2018]. This work is a review that aims to provide a theoretical framework and outline relevant points for further readers, showing the role of plasticity, variability and age in the issues of second language acquisition and bilingualism. D. Birdsong shows how variation and plasticity in second language acquisition and bilingualism is influenced by age. However, he affirms that it is not possible to relate all the issues connected with second language acquisition or bilingualism to age, as some can be found also in from-birth bilinguals. The author raises issues regarding the choice of statistical matters as different models can bring to different results and cites the many factors that influence second language acquisition and bilingualism, highlighting especially experience over age.

Furthermore, as has been noted from the work of E. Bylund, N. Abrahamsson, K. Hyltenstam, G. Norrman, effect of age is of extreme relevance [Revisiting the bilingual … , 2019]. The study focuses on the issue of lexical deficit in bilingual through a unique methodology

and study on four different groups: a total of eighty people living in Sweden have been analyzed and divided into four categories: monolinguals of Swedish, bilinguals with a Swedish and a Spanish parent, monolinguals adopted in Sweden in the age between 3 and 7, and bilinguals of Spanish parents but that arrived in Sweden through immigration in the age between 3 and 8. The study shows that bilingualism has an influence on lexical accuracy but most importantly, it is demonstrated that the age of language acquisition has a heavy influence on the matter. Although these are relevant results, the study doesn't explain why and how age has such an effect on lexical accuracy. The author hypothesizes that the effects of age of acquisition on it can be explained as an effect caused by the lack of phonetics representation. In other words, age plays an important role in the acquisition of the phonetics categories of the second language. Additionally, the choices of bilingual children have an effect as well. According to a study by K. Ribot, E. Hoff, and A. Burridge from Florida Atlantic University, [Ribot, Hoff, Burridge, 2018] the pattern of preferential use of one language that is characteristic of many bilingual children, can lead to a situation where a child is technically bilingual, but has much higher proficiency in one language to the detriment of the other.

Continuing to examine bilingual attitudes toward their L1, S. Ahn, Ch.B. Chang, R. DeKeyser, and S. Lee-Ellis have investigated how bilinguals' perception of L1 differs according to when they lost contact with their L1 and came into contact with the L2 [Age effects in first language attrition ... , 2017]. This study tested Koreans with L1 Korean language and L2 English language. The ages of lost contact were between 3 and 15. In accordance with the results, effects in L1 attrition were clear since their English speech perception in L1 Korean was predicted by their age that they lost contact with Korean. More specifically, according to E. Bylund [Bylund, 2009] and S. Montrul [Montrul, 2008] the younger they were introduced to their L2, the more they lost the ability to perceive L1 speech sounds accurately. Also, the researchers showed that the age of 12 is a turning point between the occurrence of L1 perceptual attrition and the maintenance of nativelike L1 perceptual abilities. Those facts can be also proved by the empirical study conducted by T. Karayayla and M.S. Schmid [Karayayla, Schmid, 2018] aims to shed light on the discussion over the role of age at onset of bilingualism in language capacity. In this study, L1 performance

of Turkish immigrants in the UK was compared to the L1 performance of a Turkish monolingual control group. The participants included in this study consist of 57 adult Turkish-English immigrant bilinguals whose ages at onset of bilingualism range between 7 and 34 years and 29 monolinguals who reside in Turkey. A sociolinguistic questionnaire was used to obtain personal and linguistic information. A foreign accent rating experiment was also carried out in order to detect changes in the L1 accent.

The study reveals that, while the level of proficiency that bilinguals as a group achieved was targetlike in terms of the overall structural complexity of their L1, their ability to sound nativelike was not. Furthermore, the age at onset-foreign accent rating slope decreased linearly until it reached a plateau after the age of 13. However, it was demonstrated that the age at onset is not the sole predictor in explaining the variability in the scores. Last but not least, J. Veríssimo and H. Clahsen have conducted a survey between Turkish and German bilinguals who had acquired German at different ages. The results showed that it was nativelike before the age of 6. At this point it has to be noted though that, the longer the exposure is to the second language, the more is the effect. So, these participants have been affected, and by the fact that they have been speaking and hearing the language for a long time [Bosch, Veríssimo, Clahsen, 2019]. Y. Farhy, J. Veríssimo and H. Clansen focus on advanced-late learners and observe that they are likely to show processing differences comparing to L1 speakers especially in morphology and morphosyntax. As for the late bilinguals, they seem to underuse grammatical information and analysis [Farhy, Veríssimo, Clahsen, 2018].

On the other hand, as attested to by K.M. Ribot, E. Hoff, and A. Burridge [Ribot, Hoff, Burridge, 2018], bilinguals in a largely L2 context often privilege the L2 to the L1. A study by A. Backus and K. Yağmur [Backus, Yağmur, 2019] showed that bilingual Turkish immigrant children in the Netherlands had many more mistakes compared to their monolingual Turkish counterparts and that they much more frequently missed social cues in Turkish that their monolingual counterparts would not.

Code switching

Language contact has a massive effect on bilingual persons of all ages. A linguistic outcome of language contact is code-switching. It may be defined as “the alternation of two languages within a single discourse, sentence or constituent” [Poplack, 1980, p. 583]. This phenomenon has been extensively studied in linguistics from the perspectives of sociocultural and linguistic frameworks.

D. Forker studies language switching using the Matrix Language Frame model (MLF) indicates that the participating languages in code-switching do not have equal contribution [Al-Bataineh, Abdelhady, 2019]. In this article the researcher aims to analyze the code switching in a native and indigenous language (Sanzhi) from the Caucasus region, with Russian language and the switching hierarchies in parts of the speech. The author of this study applies the Matrix Language Frame to pursue the research, and analyzes around six thousand symbols coming from monologues of six different men speaking Sanzhi. In the pursuing of the research, the author gives a deep look on the relevance of the Russian language in the Sanzhi one, detailing the general amount of influence and analyzing specific cases. As it results, it is possible to apply the MLF to perceive the influence of Russian language on the indigenous language, as of the data the men used around 4 to 17% of Russian words in their speeches, but most importantly the study highlights the hierarchy of using Russian in the language: most of the Russian words found in the speeches were nouns and discourse markers, which represent highly frequently used parts of the speech.

Another important research on this phenomenon, conducted by M. Kniaz and M. Zawrotna [Kniaż, Zawrotna, 2021], adds to our understanding of Arabic-English code-switching, with a focus on verb insertion. Its goal is to discover patterns of English verb insertion into Arabic, as well as factors that influence them. The researchers propose an alternative to previous studies' conclusions about a supposed lack of English verbs morphologically integrated into Arabic, which is said to be due to inconsistencies between the Arabic and English verb systems. The data is made up of 14 414 clauses gathered from student interviews at the American University in Cairo. This research looked at verb insertion in Arabic-English CS using the MLF model.

The research shows that embedded English verbs were morphologically integrated into Arabic in 80,17% of the cases studied. According to the research, verb insertion in Arabic-English CS is not unusual in comparison to other language pairs and does not contradict the MLF model. To conclude, the study highlights that inserted verbs are morphologically integrated with Arabic gender, tense and number. There's a complete integration in the present tense but not in the past one. The assimilation of the suffix -u in the plural is incomplete and there's a deficiency of suffixation of Arabic clitics to English verbs. This study is especially interesting as the results are contrary to previous studies and aim for further research.

Conclusion

The field of bilingual studies is a thriving one and very quickly developing. In the course of this review paper, we have explored the phenomenon of bilingualism from a sociological and psychological context. What we have found is firstly, that attitudes toward bilingualism, especially in immigrant families have become largely positive in recent years. The vast majority of immigrant parents in the above-mentioned articles, support measures in the family home to support bilingualism. Whether this takes the form of an L1 only policy at home, or intergenerational support for the L1, very few parents of second-generation immigrant children nowadays desire to see their children become monolingual in the host language of the country where they live. However, the research that we have found also supports the notion that bilingualism is very rarely perfectly balanced, and is, in fact, a very fragile thing. As mentioned by K.M. Ribot, E. Hoff, and A. Burridge, oftentimes the bilingual speakers themselves do not take sufficient measures to support one of their two languages and end up privileging one over another, which can lead to unbalanced bilingualism. Additionally, if a speaker of a heritage language is cut off from contact with this language before the crucial age of 12, it is very unlikely that they will ever achieve native-like fluency in the L1 as proved by E. Bylund [Bylund, 2009] and S. Montrul [Montrul, 2008]. Additionally, when a speaker is bilingual, they may find themselves consciously or unconsciously employing a practice known as code-switching, or translanguaging, where words, phrases and even whole sentences from the L2 are inserted into an L1

context, and vice-versa. This fascinating phenomenon opens the possibility of countless new meanings and has potential for numerous fields ranging from sociology and psychology, to art, music, and poetry. One thing that cannot be denied is that, in our ever more globalizing world, more and more people will become bilingual through independent study, and more and more parents will be raising bilingual children.

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