'People who speak two or more languages or dialects sometimes switch between them within the same conversation, and even within the same sentence. What reasons make people switch languages (or dialects)? Why is this interesting for linguists? Should linguists prescribe if switching is good or bad?'

Introduction

Estimates suggest that around half the world speaks at least two languages[1], and at high levels of proficiency switching of language (code-switching) is often seen in many different settings. David Crystal suggests this switching of language is primarily due to either not being able to express oneself in one language, or to indicate a change in attitude and emotion, or switching to a minority language to identify oneself as from a certain background and establish common ground in a social setting.[2] In this essay, I will examine these reasons for code-switching in both social and psychological contexts and argue that linguists should not prescribe whether code-switching is good or bad.

Social Solidarity

Code-switching in different settings has been found to heighten the social status of African-American adolescents both in the classroom, where standard English is expected, and also with peers outside of class, where African-American Vernacular English (AAVE) is preferred[3]. This suggests that code-switching is beneficial for integrating oneself into a social group, as posited by Crystal. In addition to solely switching language in different settings, we see switching

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[1] Yuhas, D. (2021). *How Brains Seamlessly Switch between Languages*. [online] Scientific American. Available at: https://www.scientificamerican.com/article/how-brains-seamlessly-switch-between-languages/

[2] Crystal, D. (2010). *The Cambridge encyclopedia of language*. 3rd ed. Cambridge; New York: Cambridge University Press.

[3] Hemmings (2006), as cited in Durkee, M.I. and Williams, J.L. (2013). Accusations of Acting White. *Journal of Black Psychology*, 41(1), pp.26–48. doi:10.1177/0095798413505323.

frequently within a conversation such as in Hindi-English switching[4], with an average of 32.3% English, and 67.7% Hindi. In Indian society, efficient code-switching from Hindi to English is often regarded as prestigious and high-status as it marks a high level of education and English proficiency, in particular due to the British Raj's rule, suggesting history's impact upon the propensity for languages to interact. In this corpus, Anik Dey and Pascale Fung suggest a 'Bollywood Effect' to explain the frequency of code-switching, suggesting that the use of Western themes and increasing amounts of English dialogue, coupled with Bollywood's large influence within Indian society, catalysed the introduction of code-switching into domestic life.

Myers-Scotton suggests a 'Markedness' Model to explain reasons for code-switching, proposing that people have an innate cognitive faculty that assesses 'markedness' of a code. It is built upon the premise that 'humans are innately predisposed to exploit code choices as negotiations of "position."'[5] In any given situation, a certain language variety is defined as the expected *unmarked language*, and the other is the unexpected *marked language*[6]. For example, Myers-Scotton provides the example of a conversation between customer and clerk, in which the customer seeks to withdraw money, but unfortunately is only allowed to withdraw once a week. He belongs to the Luo ethnic group, and once he realises the clerk too is a Luo, he switches into the marked language to elevate his negotiation 'position' by establishing a rapport[7], and then the clerk helps him, demonstrating the beneficial effect of the code-switch.

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[4] Dey, A. and Fung, P. (2014). *A Hindi-English Code-Switching Corpus*. [online] Available at: http://www.lrec-conf.org/proceedings/lrec2014/pdf/922_Paper.pdf.

[5] Myers-Scotton, C. (1993). Common and Uncommon Ground: Social and Structural Factors in Codeswitching. *Language in Society*, [online] 22(4), pp.475–503. Available at: https://www.jstor.org/stable/4168471 [Accessed 1 Aug. 2022].

[6] Shin, S.J. (2013). *Bilingualism in schools and society : language, identity, and policy*. New York ; London: Routledge, Cop.

[7] Myers-Scotton, C. (1993). Common and Uncommon Ground: Social and Structural Factors in Codeswitching. *Language in Society*, [online] 22(4), pp.475–503. Available at: https://www.jstor.org/stable/4168471 [Accessed 1 Aug. 2022].

In addition to switching to a minority language to provide common ground, certain social groups frequently code-switch mid conversations, in the case of Spanish-English bilinguals, Sayahi argues that "code-switching by Spanish-English bilinguals in New York goes beyond the immediate conversational functions to help forge a hybrid social identity unique to this group."[8] Indeed, we see similar effects in Hindi-English bilinguals, as shown by Dey and Fung previously. However, these speakers in particular have a large tendency to use English loanwords, mainly because there is no Hindi equivalent for many modern English words. For example, this tendency was shown when a well-known Sanskrit scholar who vowed to only speak Sanskrit to those who knew it, said /...yadi **kaṇḍiśanī** kriyate/ (if it is **conditioned**), where 'kaṇḍiśanī' is an English borrowing from 'condition', demonstrating the necessity of loanwords to Hindi speakers.[9] To analyse code-switched phrases it is hence necessary to decide when code-switching occurs, and when it is a loanword, particularly in intrasentential switching. This makes code-switching, especially that which occurs within a clause, or single word switches, very interesting to linguists as it raises the question not only of defining a loanword, but also the matter of rapidly changing phonemic inventory, particularly for example with tonal languages.

Syntax, Phonology, and Phonetics

This switching of language can be described as *inter*sentential or *intra*sentential, the former meaning the switch occurs between two sentences, and the latter meaning a switch within the sentence. Various theories exist as to how the syntax of the code-switched sentence is determined in intrasentential switching, including Myers-Scotton's Matrix Language-Frame Model. The Matrix Language-Frame Model is predicated upon the notion that one language takes a more dominant role than the other in code-switching, and acts as a 'matrix language', providing a grammatical morphosyntactic framework in which most

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[8] Sayahi (2004), as cited in Deuchar, M. (2013). Code-switching. In C.A. Chapelle (ed.) Encyclopedia of Applied Linguistics, New York: Wiley, 657-664.

[9] Chandola, A.C. (1963). Some Linguistic Influences of English on Hindi. *Anthropological Linguistics*, [online] 5(2), pp.9–13. Available at: https://www.jstor.org/stable/30022405.

constituents in sentences with intrasentential code switching can be inserted[10]. There is also another approach we can take: the minimalist approach, in which neither language is dominant, but rather lexical items from each language can be combined in particular ways dependent on their feature[11]. For example, we can take the sentence 'oedd gynnon ni ystafell yn Plas yn Dref, ystafell <u>brilliant</u>' in Welsh, with English code-switch underlined (we had a room in Plas yn Dref, a brilliant room). If we apply a Matrix Language-Frame approach, we see that Welsh is the matrix language, and English is the embedded language, and thus the sentence should follow Welsh syntax, which it does. If however we take a minimalist approach, the order of the Welsh noun 'ystafell' and English adjective 'brilliant' should follow English syntax, which it does not. On the other hand, if we take the sentence 'tibod y y <u>raw</u> peth (y)ma (fe)lly de' (so you know the raw thing don't you), we see the Welsh noun 'peth' and English adjective 'raw' following English word order, which would be expected from the minimalist approach, but incorrect by the Matrix Language-Frame Model[12]. This demonstrates that neither approach can consistently predict code-switched grammar, in turn proving the importance of studying code-switching and its appeal to linguists.

In addition to predicting syntax, code-switching experiences interesting consequences when tonal languages, such as Mandarin are involved. Mandarin has 4 basic tones and a neutral tone, romanised as ā, á, ǎ, à, and a[13]. In their paper 'Tonal aspects of code-switching' Lin Zheng suggests that falling 4th tones, which correspond to English intonation, facilitate code-switching from Mandarin to English, finding that the incidence of frequent switching to English in the

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[10] Myers-Scotton, C. (1997). *Duelling Languages: Grammatical Structure in Codeswitching*. Clarendon Press.

[11] MacSwan (2009) as cited in Deuchar, M. (2013). Code-switching. In C.A. Chapelle (ed.) Encyclopedia of Applied Linguistics, New York: Wiley, 657-664.

[12] Deuchar, M. (2013). Code-switching. In C.A. Chapelle (ed.) Encyclopedia of Applied Linguistics, New York: Wiley, 657-664.

[13] Ibrahim, A. (2014). *Chinese: complex tones and characters, streamlined grammar | British Council*. [online] www.britishcouncil.org. Available at: https://www.britishcouncil.org/voices-magazine/chinese-complex-tones-characters-streamlined-grammar.

context of a falling tone is 97.25% in their data set[14]. When comparing the incidence of falling tones before English noun phrases, they found that the percentage of falling tones before Chinese noun phrases in monolingual speech was significantly lower, around 59%, suggesting that the code switching is significant, and that the tonal facilitation plays an important role in frequent Mandarin-English code-switching in bilinguals. This tonal facilitation may occur in other languages, and it proves an intriguing posit to determine whether some languages and language pairs are simply more suited to switching than others.

The Bilingual Mind

The high frequency of bilingual people around the world has resulted in much investigation about the effects of bilingualism in the mind, indeed one professor in 1890 wrote that the 'intellectual and spiritual growth would not thereby be doubled, but halved'. However, among other studies, Bialystok and Craik found that bilingual children are more accurate in detecting grammatical issues in sentences which are semantically anomalous e.g. 'apples grow on trees' vs. 'apples grow on noses'[15]. They also found that bilingualism could defer the onset of dementia by up to 4 years, suggesting a strongly positive influence of bilingualism. Code-switching itself however has also been investigated, for example Phillips and Pylkkänen investigated Korean-English switching by carrying out magnetoencephalography to examine the brain during switches of language, orthography or both in subject + intransitive verb phrases, as these combine in the same way in both English and Korean[16]. They found that when two words meaningfully combined (i.e. 'icicles melt', rather than 'jump melt') in monolinguals, there was a spike in activity in the left temporal lobe, reflecting conceptual aspects of composition and high-association compositional

[14] Zheng, L. (1997). Tonal aspects of code-switching. *bridges.monash.edu*, [online] 1(1). doi:10.4225/03/5930c7d962034.

[15] Bialystok, E. and Craik, F.I.M. (2010). Cognitive and Linguistic Processing in the Bilingual Mind. *Current Directions in Psychological Science*, [online] 19(1), pp.19–23. Available at: https://www.psychologicalscience.org/journals/cd/19_1_inpress/Bialystok_final.pdf?lan=ayajzqechdlh&lan=ayajzqechdlh

[16] Phillips, S.F. and Pylkkänen, L. (2021). Composition within and between Languages in the Bilingual Mind: MEG Evidence from Korean/English Bilinguals. *eNeuro*, [online] 8(6). doi:10.1523/ENEURO.0084-21.2021.

phrases[17]. However, when there was a language change or orthographic change the same occurred when the words meaningfully combined, indicating that the language change had no effect upon comprehension, suggesting that code-switching is natural, and often the path of least resistance in bilinguals.

In addition to the effects of bilingualism as a whole, with code-switching we can also examine whether the language spoken affects the speaker's perception of reality. In the words of Wilhelm Von Humboldt, 'language is the formative organ of thought...thought and language are...one and inseparable from each other'[18]. Upon this premise we find the Sapir-Whorf Hypothesis that posits that the language we speak affects the way in which we think. The main subtheory of the Sapir-Whorf hypothesis is Linguistic Relativity, which has been widely investigated; it holds that the structural differences between different languages result in differences in nonlinguistic processing. Phillips and Boroditsky found that when German and Spanish speakers were presented with a word that is feminine in German but masculine in Spanish, e.g. 'die Brücke' and 'el puente' (the bridge), the German speakers described the object with stereotypically feminine characteristics, however the Spanish speakers described the object with stereotypically masculine characteristics[19]. The same was observed vice versa with a word that was feminine in Spanish, but masculine in German. This clearly suggests that there is some effect of the language upon the speakers' perception of reality, supporting a notion of linguistic relativity, meaning the possibility that code-switching can result in altered perceptions of reality (albeit mildly), proving it to be an interesting area for linguists.

In turn, as we see that the language spoken may have affected how the speaker thinks, it is important to consider whether switching from one language to

[17] Li, J. and Pylkkänen, L. (2021). Disentangling Semantic Composition and Semantic Association in the Left Temporal Lobe. *The Journal of Neuroscience*, 41(30), pp.6526–6538. doi:10.1523/jneurosci.2317-20.2021.

[18] As quoted in Gumperz, J.J. and Levinson, S.C. (1996). *Rethinking linguistic relativity*. Cambridge ; New York, Ny, Usa: Cambridge University Press.

[19] Phillips, W. and Boroditsky, L. (2003). Can Quirks of Grammar Affect the Way You Think? Grammatical Gender and Object Concepts. *Proceedings of the Annual Meeting of the Cognitive Science Society*, [online] 25(25). Available at: https://escholarship.org/uc/item/31t455gf.

another allows the speaker to experience a different set of perceptions, or if this theory would even hold true in bilingual speakers. To address the latter, a study was conducted upon Mandarin-English bilingual speakers, asking participants to arrange photographs of Chinese actor Jet Li, and American actor Brad Pitt in chronological order[20]. In Mandarin, time can be expressed with vertical spatiotemporal markers '上' and '下', for example '上个星期' (shàng ge xīng qī), meaning 'last week', and it was found that participants tended to arrange photographs of Jet Li with a vertical Mandarin-influenced timeline, and photographs of Brad Pitt with a horizontal English-influenced timeline, suggesting an effect of the language they spoke upon the nonlinguistic cognitive task of ordering time. This in itself demonstrates some variety of mental code-switching, as we see a clear correlation between language and manner of organisation. This brings us to the question, is this quasi-code-switch beneficial in any way?

Should we prescribe whether code-switching is good or bad?

Before we can decide whether or not code-switching is a good or bad thing, we must consider whether we should. To determine this, we can consider the consequences of dictating if code-switching is or is not a good thing, by considering similar historical circumstances. If we were to say that code-switching was a bad thing, this may lead to the suppression of one language if that language happened to be less frequently used. For example, in a webinar to antenatal teachers about multilingualism, the importance of frequently scheduled language contact time was highlighted[21]. This suggests that without frequent language contact, desired levels of proficiency may not be reached. Moreover, on the other hand if we were to prescribe that code-switching was a good thing, we may see the encouragement of multilingualism, and increased diversity of language. However, there is equally the chance that by promoting code-switching, particularly switching language in different settings, rather than mid conversation, we are perpetuating a lack of

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[20] Miles, L.K., Tan, L., Noble, G.D., Lumsden, J. and Macrae, C.N. (2011). Can a mind have two time lines? Exploring space–time mapping in Mandarin and English speakers. *Psychonomic Bulletin & Review*, 18(3), pp.598–604. doi:10.3758/s13423-011-0068-y.

[21] Cambridge Bilingualism Network (n.d.). *What antenatal teachers need to know about their multilingual families*. [online] Available at: https://drive.google.com/file/d/1A1GOUWqTMM4zgu0Xwk046wEmwSqzT8lV/view.

equality, especially in the case that the switching occurs between sociolects, rather than distinct languages. Indeed, in the case of the famous Ebonics debate, it has been suggested that social stratification arises by favouring the linguistic and phonological features of the 'elite' class[22]. By promoting code-switching would we not be embracing this divide and encouraging a duality to our lives? Of course this is a very extreme, and very hypothetical case. Neither stating that code-switching is a good thing, nor that it is a bad thing appears to be a beneficial course of action, and so it makes most sense to first examine whether or not it appears to be a good thing, before prescribing whether it is, however, the scope of this endeavour makes it too broad to cover fully in this essay, and thus an abridged review of the above evidence shall be provided instead.

Conclusion

The psycholinguistic evidence examined previously appears to be in favour of code-switching, as it is established that bilingualism has a positive effect on the cognitive faculty[23]. It is also shown that language switching, and orthographic switching appears not to have an effect on cognitive processing, implying that code-switching is often a natural path for multilinguals[24]. Therefore it is reasonable to suggest that code switching, like bilingualism generally, is beneficial psychologically.

The sociolinguistic evidence analysed above also suggests that code-switching is highly beneficial in establishing common ground between people who share a minority language in common, but also that frequent code-switching in certain

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[22] Parmegiani, A., Holliday, A., Hyde, M., Kullman, J., Ricento, T., Ramirez, J., Wiley, T., de Klerk, G., Lee, E. and Wright, W. (2006). On Race, Language, Power and Identity: Understanding the Intricacies through Multicultural Communication, Language Policies, and the Ebonics Debate. *TESOL Quarterly*, 40(3), p.641.

[23] Bialystok, E. and Craik, F.I.M. (2010). Cognitive and Linguistic Processing in the Bilingual Mind. *Current Directions in Psychological Science*, [online] 19(1), pp.19–23. Available at: https://www.psychologicalscience.org/journals/cd/19_1_inpress/Bialystok_final.pdf?lan=ayajzqechdlh&lan=ayajzqechdlh

[24] Phillips, S.F. and Pylkkänen, L. (2021). Composition within and between Languages in the Bilingual Mind: MEG Evidence from Korean/English Bilinguals. *eNeuro*, [online] 8(6). doi:10.1523/ENEURO.0084-21.2021.

ethnic groups can increase sense of community in hybrid-background individuals, for example bilingual immigrants.

This would suggest that code-switching appears to be a positive thing. Given this, I still believe that it is best for linguists to not prescribe whether or not code-switching is good or bad, for currently language switching is prevalent around the world, and prescribing that it is good could increase insecurities among monolinguals, and prescribing that it is bad may result in the suppression of certain minority languages. Therefore, it is shown that code switching can be a brilliant tool to express solidarity with other people, to experience minute, yet noticeable differences in reality perception, to express emotion better, and improve communication and eloquence among speakers. Moreover, the vast range of hypotheses surrounding its grammar, and the phonological consequences of these make code switching an invaluable tool via which linguists can study the interaction between different cultures.