

An Overview of Theories and Approaches to Code-Switching

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Abstract

The study of code-switching refers to the shift in a spoken language both across as well as within sentence boundaries. There are numerous linguistic, sociolinguistic and psycholinguistic theories and approaches to elucidate the socio-cultural, cognitive and structural aspects to understanding the code-switching phenomenon. However, these theories and approaches are overlapping and create perplexity for researchers to distinguish them independently. The contribution of this paper is to explain and analyze various theories as well as re-locate them into the various schools of thought and put them under their respective umbrellas according to their approaches.

Keywords: code-switching, conversational analysis, sociolinguistic, psycholinguistic, structural

Introduction

The term code switching (CS) was initially used by sociolinguists like Gumperz in the 1960's (Albarrilo, 2018). Code-switching is one of the important fields in multilingualism. The term code refers to 'languages, dialects, styles of speech'; while switch denotes to an alternation or change between varieties of languages, dialects or styles (Gardener-Chloros, 2009, p. 11). Generally, the term code-switching defines the shifts in spoken language both across as well as within sentence boundaries (Blom and Gumperz, 1972). Code-switching usually occurs in bilingual settings where speakers alternate between two languages on a sentence or phrase level (Mabule, 2015). It is also defined as selection or alteration of language elements to match the context of the interaction; this practice may include linguistic and extra-linguistic elements like identity, norms, culture, etc. in its fold (Nilep, 2006). Code-switching is investigated via three different perspectives: sociolinguistic, psycholinguistic and structural. This need for involving other fields of knowledge in linguistic inquiry was first raised by Sapir (1929). Sociolinguistic theories investigate the social motivations that drive the speakers to switch the code from one to other while psycholinguistics theories investigate the cognitive process where two or more languages are working simultaneously; and structural approach focuses on the grammatical rules that interfere or permit the combination of different languages during switching process.



1 The sociolinguistic approach

Sociolinguistic theories of code-switching explore code-switching as a social language behaviour that reflects the linguistic, social and cultural norms of a speech community. Sociolinguistics is an extensive theory that functions at macro and micro level (Shah, Furqan & Zaman, 2019). The micro approach focuses on the interpersonal relationships between speaker and interlocutor; contrarily, macro approach analyses the functions of code-switching in a social context within a speech community. Keeping in view the broad dimension of sociolinguistic approach, the investigation of code-switching has been divided into three schools of thought:

- (i) Code-switching as a social practice of communication to perform certain socio-cultural functions.
- (ii) Code-switching in terms of conversation analysis.
- (iii) Code-switching as a social process for creating or levelling social boundaries.

Each school of thought is described in detail in the following sections.

(i) Code-switching as a Social Practice

First school of thought is represented by Gumperz, (1956; 1982), Blom and Gumperz, (1972), Myers-Scotton (1993a) and others have referred to code-switching as a social dynamic in a bilingual or multilingual discourse. They focus on speaker; interlocutor; physical setting; conversational style (i.e. formal or informal) and the topics of discussion as the instigating tools to switch the code for achievement of particular social functions or to achieve sociolinguistic goals (Bhatt & Bolonyai, 2008; Chakrani, 2016; Clyne, 2003). Gumperz (1958) concluded that male Indian population uses local dialect at home or in informal settings while standard dialect is reserved for formal interactions, like workplace, official gathering or meeting. Blom and Gumperz (1972) explored the code-switching of standard dialect Bokmål and local dialect Ranamål in context of Norway. Findings suggest that although both dialects have great similarities but they are used in different contexts depending on the functions of interaction. Blom and Gumperz (1972) have divided these functions into two broad categories: situational code-switching and metaphorical code-switching.

Situational code-switching is a linear relationship between use of language and social milieu; and the speaker determines the situation, the interlocutor and the topic, and uses the most appropriate code to gain the maximum interactional functions (Gumperz, 1982, p. 61). Blom and Gumperz (1972) illustrated an interaction between a clerk and a resident at a community office in Norway. Both speakers used standard Bokmål when discussing official affairs but switched to local Ranamål when they talked informally on family issues. In this situation, the change in code choices from formal to informal or vice versa is signalling a shift in their roles from employees to friends (Blom and Gumperz, 1972). This change in code is a predictable feature that specifies the social relationships of the

participants and their expectations, or 'Rights and Obligations' (RO). RO are the elements of a language that are safeguarded from speaker A for speaker B and vice versa in terms of language use, clues, postures, a reluctance or desire to oscillate between two grammars (Blom and Gumperz, 2000). In other words, RO indicates the relationship between language choice and social situation which is either expected (unmarked) or unexpected (marked) and a violation of the RO may lead to the conversation being terminated (Blom and Gumperz, 2000, p. 126). Hence, code-switching is a linguistic property of bi/multilingual and a rule-governed process that is dependent on situation and interlocutor to achieve particular social functions. The second type of code-switching is Metaphorical code-switching that occurs when change does not occur in the situation rather the change in the language is intentional and it has an oblique or symbolical message or symbolic connotation depending on the speakers' decision to use a different code where normally another language is operated (Gumperz, 1982). Thus, metaphorical code-switching conveys a privacy and secrecy of a conversation (Blom and Gumperz, 2000). This switching bounds the interlocutor to interpret and unfold the metaphor in order to infer it and get implicit meaning (Panhwar, 2018). Metaphorical code-switching investigates the extra-linguistic factors and linguistic behavior of bilinguals that how the later betters a linguistic situation by channelizing allusion to serve multiple relationships within the same situation (Blom and Gumperz, 1972).

Blom and Gumperz's (1972) theory was criticized on the grounds that both situational and metaphorical code-switching lack the clarity as both focus on the choice of code and functions (Panhwar, 2018). Gumperz (1982) redefined his concept asserting that external factors of situational code-switching such as setting, topic and changes in the linguistic situation are the main motivational factors; while in metaphorical code-switching the speaker is comparatively more focused (Gumperz, 1982, p. 61). In metaphorical code-switching the code-switcher is considered as the 'prime cause' of code-switching depending on the individual's perception (Panhwar, 2018, p. 211).

Myers-Scotton (1993a) criticised the notions of situational and metaphorical code-switching on taxonomic grounds and to avoid the blurriness introduced marked (unexpected) and unmarked (expected) code-switching in Markedness Model (MM) of code-switching. The MM model explains the prevailing social norms in a social interaction is an 'innate human language faculty' and multi linguals are aware of the socio-linguistic norms in terms of the choice of code/s in their speech community "what the community predict[s] is unmarked, what is not predicted is marked" (Myers-Scotton 1993a, p. 5). Elaborating it further Myers-Scotton states that generally a multilingual speaker responding to a change of situation uses expected or unmarked code; however, in certain situation the speakers have a choice to formulate desirable rights and obligations as contribution to a conversation (1993a). The mutual agreement and

awareness of linguistic conventions allow speakers to distinguish between expected or unexpected code.

The MM model was criticized by Auer (1998) on the ground that it fails to consider the speaker's perspective as the motivational force behind their use of code-switching. Myers-Scotton (2002) addressed this criticism and has re-defined the MM model in the Rational Choice Model focusing on the speakers' "subjective motivations and their objective opportunities in their language choice" (p. 5). She states that the code-switcher is conscious linguistic behaviour and code-switcher is a rational agent who calculates the apt choices of code for best communicative reward (Myers-Scotton, 2002). Consequently, code-switcher is a 'goal-directed ad creative' who by using his/her cognitive abilities assess the costs and rewards and switches to mark or unmark code (Myers-Scotton, 2002).

In the recent developments in study of code-switching as social practices the linguistic approaches are more empirical-based. The research of Schmidt (2014) and Panhwar (2018) suggests that language preference, social identity, participants' gender and age can also be influential factors in a code-switching. Recent study of Panhwar (2018) provides the in-depth view of the language selection strategies by trilingual speakers depending on the situation, topic and interlocutors.

The research by Song (2019) contributed to another aspect of sociolinguistic approach to code-mixing: role of code-mixing in language socialization. The findings of the study show that language socialization of children through code-mixing practices provides them a broader spectrum of creative linguistic use, and also a richer pragmatic information which helps them interpret complex social meanings more easily.

Wood (2019) has introduced even a new dimension in the sociolinguistic perspective of code-mixing: using code-mixing as a tool by doctors to build rapport and persuade a patient to stick to their treatment plan. This is the first study of its kind which opens gates to new range of research ideas in medical field through code-mixing: tone as an affective factor in code-switching, code-switching to a vocabulary that patients understand, code-switching to a vocabulary that patients find befitting to their educational and professional status, increasing the patient adherence, and so on.

(ii) Conversational Analysis

Code-switching at micro level is analyzed through conversation analysis (CA), also known as conversational code-switching (Gumperz, 1982). When Blom and Gumperz's (1972) notions of situational and metaphorical code-switching were criticized, Gumperz (1982) revisited and modified these notions of code-switching by avoiding the situational and metaphorical code-switching taxonomy by using the general term conversational code-switching that focuses on particular language choices in a specific setting, topic, and speaker's language strategies.

Gumperz (1982) introduced the notion of contextualization cues which focuses on the brief, spoken interaction as a way of identifying the functions of code-switching. Defining the contextualization cues, Gumperz (1982) states that a feature of language that signals at a presupposition which may carry meanings and information for a conversational situation is called a contextualization cue.

The contextualization cues may be prosodic, extra-linguistic, syntactic, lexical or stylistic to convey the social signals about the attitude and mood of the speaker such as anger, warning, attracting attention, and establishing identity. Speakers encode and listeners decode the information and make meaning and they also link utterances before and after the spoken sentence with it (Gumperz, 1982). The cues are social, metaphorical global and local discourse devices in which the speaker employs distinct language varieties in the specific settings [informal and informal] and ideally, addressee actively infers these cues to know the meaning of speaker's switching and responds to it appropriately (Gumperz, 1982, p. 131). Thus, contextualization cues are the clusters of signs used in a speech act that collectively indexes a frame of interpretation of an utterance (Gumperz, 1982). The contextualization cues have also come under fire by Myers-Scotton (1993a) who states that language is a dynamic tool but Gumperz had confined the functions of code-switching to the linguistic competence of bilinguals.

However, Auer (1984-1998) and Wei (2002; 2005), using the term conversation analysis (CA), broaden this concept. They believe that structural and sociolinguistic approaches leave a gap in the understanding of code-switching because a structuralist focuses on language-internal factors while the sociolinguist analyses language-external factors. In this situation, CA can be the best option to bridge the gap by focusing on why code-switching occurs and how it occurs (Auer, 1995). Using the term code alternation, Auer (*ibid*) expanded the socio-pragmatic functions of code-switching by elaborating contextualization cues as a sequential way of language choice. (1995, p. 116). Auer argues that no utterance can be interpreted in a void, but must be taken as an "utterance in a particular locus of occurrence" paying a special focus on the speakers as social actors. Related to this, Auer introduced the notion of sequentiality which states that the emergence of functionality of code-mixing occurs as a sequential development and that code-mixing alterations depends on sequential environment for their meaning (1995). However, Auer's notion of CA is at micro level that pays attention to the speakers' intentions but it does not address the social aspects of code-switching. On this ground, Myers-Scotton and Bolonyai (2001) censure CA for its overwhelming emphasis on sequencing, ignoring the social motivations and identities of the participants. Wei (2005) defends the micro level position of CA, and states that it is the appropriate approach to know how the conversations are exhibited, contemplated, endorsed, negated, or altered during conversation. Adapting the brought along and brought about concept from Auer (1995), Wei (2002) simplified that all social theories analyse languages involved in code-

switching as social-symbolic, hence they are brought along to the interpretation of the codes that pre-exist social association (p. 167). While the CA approach emphasized the recurring characteristic of meaning, the semantic component of an interaction is a result of a bilingual speaker's contextualization through code-mixing (Wei, 2002). Thus, the brought along notion indicates the code that indexes speaker's identity and the brought about indicates speaker's language choices for code-switching (Auer, 1995 and Wei 2002). CA is an effective method for examining the techniques in bilinguals use in speech in order to understand its organisation and interpretation.

(iii) Code-switching as a social process

This sociolinguistic school of thought analyses code-switching from the perspectives of politics of language, negotiation, power, authority, resistance, anger, hegemony etc. (Heller, 1988). Code-switching is seen as a strategy to define leveling and maintaining boundaries in multilingual societies (Bourdieu, 1977, 1991; Gal, 1979; Gumperz, 1982; Heller, 1988; Woolard, 1988). Bourdieu (1977, 1991) considers language choice as a strategic tool to exert power through concepts of linguistic resource (language availability), symbolic marketing (status of a language in the society) and capital language (dominated language). The ruling minority chooses one variety of a language to be legitimate which gains a natural legitimacy in the various spheres of life and is further imposed by the dominant group as the standard variety or standard dialect, hence it becomes an official linguistic resource as a symbol of capital (Bourdieu, 1991). To understand the functions of code-switching in a society, it is important to know the past and present status of its various speech communities, this opens gates to understanding the linguistic atrocities that were committed in past, if any; this was proven by an ethnographic study carried out in Austria where language choice correlated to social status, ethnic or group solidarity (Gal, 1979). The notions of we and they are used as code indexes of in-group and out-group identity and are used as the tools for ethnic, cultural and social bifurcation to create or level the social boundaries; however, these codes are used to show ethnic identity predominantly e.g. in some countries members of minority group switch to majority code to gain easy access to power (Gumperz, 1982). For example, in Pakistan, especially in urban areas, native bilinguals make up 92% of the population. Due to hegemony of Urdu, which is the language of only 8% Indian-Muslim refugees are settled in Pakistan, they speak Urdu instead of their native languages (Panhwar, et al., 2018). This is similar to the situation in India where Hindi, the language of the minority, dominates languages such as Tamil, Telugu and Malayalam etc.

The social practice involves various social functions aimed at achieving a variety of goals. When a speaker switches from one language to another, most of the times there are conscious, clear-cut goals at play. These goals could be a

professional gain, inclusiveness in a group, showing solidarity to a group, or representing one's self in a bilingual situation (Albirini, 2011, 2014a, 2014b; Davies & Bentahila, 2006).

The presence or absence of a 'capital code' is related to the unnatural distribution of linguistic resources. Those who have more access to highly valued languages are able to control and exploit this valuable linguistic resource to gain socioeconomic status while others remain deprived (Heller, 1988, p. 1). One must consider the access of common people to that capital code and socioeconomic differences while studying code-switching in a community (McClure & McClure, 1988). Colonial policies, for example, used language as a tool to demarcate the natives from the white community, and rulers from the ruled (Zentella, 1997). The separation of ruling from the ruled and hence production and reproduction of dominance of the former over the later can be helped significantly by code-switching and other particularized elite language patterns; the educated elite form a prestigious code with maximum code-switching patterns which is then limited to elite circles hence making it nearly impossible for the common people to access it (Myers-Scotton, 1993a, 2004). Sometimes such elite codes face a backlash or resistance from the masses (Woolard, 1998). Code-switching has also been seen as socially stigmatized behavior (Mahootian, 1993) but that does not seem to be case looking at the language norms in countries like Pakistan where such norms are generally considered a normal language behavior (Panhwar, 2018).

The socio-political and ethnic-cognitive factors are predominant elements of language crossing (also known as code-crossing). The code is altered and crossed by people who are not considered the owners of the other language, so they consciously or sub-consciously switch from their native language to other language to view the identity and ethnicity of the other group and reshape his/her identity based on those observations (Rampton, 1995, p. 300).

Code-switching to prestigious languages may be used as a tool of language shift. Educated and elite Sindhi-speaking Pakistanis frequently switch to English and Urdu, the official languages and prestigious codes of the country that symbolize power and social status, to exercise and maintain power; it is also an unsociable process of language shift. This situation may cause a significant alteration to language in Pakistan by establishing loan words as the permanent lexicons (Panhwar, 2018).

One of the least research approaches to code-switching includes bi-dialectal code-switching. Often, there are two varieties within a language: colloquial and standard. Speakers switch from one variety to another in order to achieve various social functions. This particular approach is necessary to understand the phenomenon of Heritage language acquisition (Albirini, 2011, 2014a, 2014b; Albirini & Chakrani, 2016). In the same direction, Gardner-Chloros (2017) has identified another issue of significance: there has been a great gulf between the research of historical sociolinguistics and mainstream

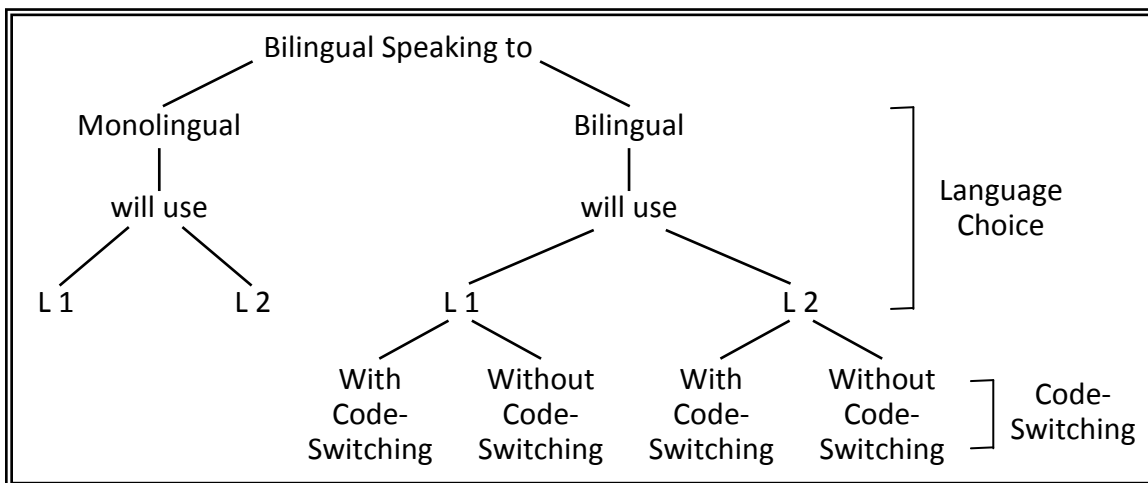
sociolinguistics, in the perspective of code-switching, despite the fact that the interests of both overlap each other. By mainstream sociolinguistics, it is implied that despite taking the cover of historical sociolinguistics the contemporary mainstream research in this area covers only contemporary multilingual events.

2. Psycholinguistic approach

The second approach of investigating the phenomenon of code-switching is from psychological, neurological, structural and socio-cultural perspectives that explains the mechanism of cognition and knowledge basis of language creation, meaning-making, and adoption (Kootstra, 2015). Grosjean (2000) states that code-switching is a multifaceted system that clarifies the potential of a bilingual speaker to discriminate the two codes. Early interactions between code-switching and psychology were analyzed by Weinreich (1953) who attributed the bilingual potential to switch codes with early childhood and bilingual parenting. Endorsing his ideas, Vogt (1954) termed code-switching as a psychological phenomenon rather than a linguistic one.

During the code-switching process the cognitive mechanism establishes the balance by neutralizing network, however, no language is completely ‘turned off’ but all languages ‘co-exist’ while one is highly active than others; or the languages cross and re-cross each other (Grosjean, 1982, p. 260). Grosjean (2000) considers the interlocutors, location, and functionality of interaction as the essential components for activation of the bilingual’s ‘language mode’ that makes code-switching possible. No doubt, it is a complex decision-making process compared to monolingual because the mind of a bilingual speaker first “decides which base language to use, and in the second stage engages in code-switching” as illustrated in the following figure:

Language choices and code-switching



(Grosjean, 1982, p. 145)

Unfolding the cognitive process Clyne (1991) uses the ‘triggering hypothesis’ which explicates that code switching is promoted by words that trigger an intersection of two codes which may affect a speaker to drop his/her L1 repertoire and take aid from L2 for continuation of conversation. Poplack (1980) states that code-switching mechanism is either ‘smooth or flagged’, depending on the linguistic competence of code-switcher. The smooth code-switching is fluent and effortless while in flagged code-switching contains hesitation or repetition during the production of language. De Bot (1992) states that there are two kinds of code-switching: performance switching; which is un-intention switching of a bilingual; and second is motivated switching which is intentionally use of code-switching. Both depend on an individual’s linguistic competence that is solely responsible to increase or decrease the level of activation of languages. Code-switching can also determine psychological dimensions of personality, hence code-switching is not merely a linguistic matter but it goes beyond that: it can exhibit a person’s self-definition, self-perception, self-image, and the affective factors of personality (Bilgin, 2016).

Code-switching can be explored at the lexical and syntactic levels. In lexical code-switching, two subsystems of languages are operated as single system within a single framework (Clyne, 1991; De Bot, 1992). The lexical switching is “often when the stimulus contained a cognate, but only when the confederate had just code-switched in the preceding turn” (Kootstra, 2015, p. 10). This means that the triggering of code-switching is associated with speaker and interlocutor, if one of them restrains from code-switching the speaker’s willingness to switch code is significantly low (ibid). A recent study has proven a novel fact that integrated code-switching can generate conflict resolution during a confronting situation. It implies that there is interdependence between cross-linguistic conflict and adjusting behavior when code-switching is utilized; overall findings of the study allow an insight into how language processing desires of bilinguals regulate moment-by-moment cognitive control performance (Adler, Valdes Kroff, & Novick, 2020).

While a bilingual’s internal or cognitive mechanism makes code-switching possible, there are external factors that influence the degree of activation for code-switching. Accommodation theory of code-switching explains the social as well as cognitive reasons for code-switching in inter-group interactions. It conceptualises code-switching as a partial accommodation to minimise social differences. Moreover, language is a social practice and a channel to connect people with their community, locality and times they live in, in order to accommodate and adjust themselves according to context and people (Giles, et al, 1991). Speakers consider social approval of their interlocutors to switch or modify their speech according to the code and style of the later. This is also done by speakers to adapt or mimic the interlocutors to accommodate and adjust (Giles, et al, 1991). On the contrary, in certain situations, when speakers do not follow their interlocutors’ code then they diverge themselves from their interlocutors (Giles et al., 1991). Thus, accommodation theory is the social approval or disapproval of a linguistic behavior.

3. The Structural approach to Code-switching

The structural approach measures the degree to which an L2 is integrated into an L1 or vice versa. It also explains syntactic and morphological constraints which restrict this integration. This approach determines intra-linguistic code-switching as internalized grammatical systems or subsystems of bilingualism; and semantic and syntactical ties which bind two languages in a single speech act (Poplack, 1980, 2000). Grammatically constrained theory explains that shifting of languages at intra-sentential level is possible at certain morpho-syntactic boundaries only (Weinreich, 1953, 1968). This theory was further unfolded by Poplack (1980-2000), Di Sciullo, et al (1986), Myers-Scotton (1993-2000), Mahootian (1993), MacSwan's (1999) etc. According to structuralists, code-switching is the "juxtaposition of sentences or sentence's fragments, each of which are internally consistent with the morphological and syntactic (and optionally, phonological) rules of its lexifier language" (Poplack and Meechan, 1995, p. 200). The rules of lexifier refer to the borrow-ability of vocabulary (or lexicon) from one language to another as per the rules of the imported language.

Theory of Equivalence Constraint focuses on two specific constraints: equivalence and Morpheme. Code-switching occurs when there is agreement of the three grammatical constraints of the languages involved: first, code-switching occurs at syntactical positions where there rules of L1 and L2 are not violated; two, there is more switching on sentence level than lexical level; and three, free morphemes are a big constraint in the way of code-switching. Free morphemes predict that code-switching is not possible between bound morphemes and a lexical form until such a lexical form is phonologically integrated into the bound morpheme (Sankoff and Poplack, 1981).

Closed-Class Constraint and Open-Class Constraint Theory of code switching states that a code switching is impermissible between a closed-class items (determiners, preposition, auxiliary verb, etc.) and an open class items (Noun, adjective, adverb etc.) (Joshi, 1985, p.10). Code-switching is possible when a control structure allows a shift from a matrix code to an embedded code but not vice versa (MacSwan, 2000). However, this theory was negated by code-switching between Italian and French (Di Sciullo, 1986) and, Persian and English (Santorini & Mahootian, 1995) where code-switching was possible between closed-class items. The theory was also criticized for ill-presenting the code-switching instances (MacSwan, 2000). Bokamba (1989, p. 21) suggested that ungrammaticalities in code-switching are not violations of the morpho-syntactic rules governing it, but should be considered as violations of the syntactic constraints of the language involved in the code-switching. Panhwar (2018) explains that switching is not possible when the word-orders of two languages vary from each other. For example, Sindhi-English code-switching is not predictable at auxiliary verb level because the basic word order of Sindhi is SOV while English is SVO.

To encounter the equivalent constrain approach, MacSwan (1999, 2000) suggested Minimalist Approach which is based on Chomsky's (1982) Theory of Universal Grammar i.e., human brain has innate tendency to acquire some grammar rules. There are three stages of code-switching: 'Pick, Merge and Move'. The bilinguals, using

their linguistic competence, choose a component and expose them to numeration, then they assemble a subset of lexicons to establish a derivation (MacSwan, 2000). Then, this language item merges together and the sentential objects created by the operation mix and move by other operation to go on and make a new sentence (ibid). Hence, the minimal approach explains code switching process in terms principles and requirements of Universal Grammar to formulate the use of grammar to form code-switching as a mixing of two lexicons (ibid, p. 71).

Matrix Language Frame (MLF) elucidates “how language is accessed and retrieved before it takes the final form” (Myers-Scotton 1993b, p. 45). This model unfolds the structural patterns and systematic grammatical relationships of the languages involved in code-switching. When a bilingual speaker combines different languages within a syntactic unit (e.g. a sentence or a clause) the dominant language is known as the ‘matrix language’ (ML) while inserted language items are derived from the ‘embedded language’ (EL) (ibid). The nucleus of MLF model is that “code-switching takes place within a frame set by matrix language” by providing functional morphemes while the EL has a lesser role since it provides content morphemes (ibid, p. 75). Furthermore, the MLF model is based on two principles to determine the ML:

- (i) The Morpheme Order Principle: in Matrix Language + Embedded Language constituents consisting of singly occurring Embedded Language lexemes and any Number of Matrix Language morphemes, surface morpheme order (reflecting surface Syntactic relations) will be that of the Matrix Language (ibid, p. 75).
- (ii) The System Morpheme Principle: in Matrix Language + Embedded Language constituents all system Morphemes which have grammatical relations external to their head constituent (i.e. which participate in the sentence’s thematic role grid) will come from the Matrix language. Thus in the SMP principle, the ML provides system morphemes which are functional elements (such as determiners, conjunctions, quantifiers, and modals) (Myers-Scotton, 1997, p.83).

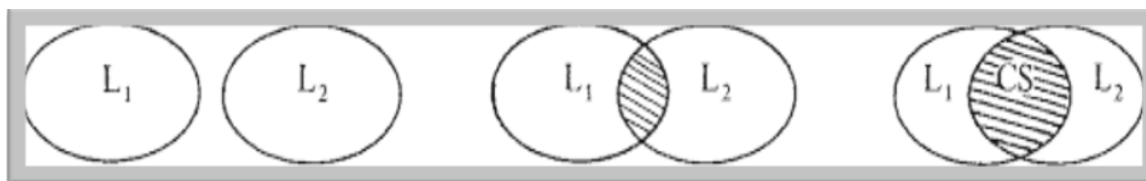
The third situation that is called classic code-switching in which “abstract grammatical structure within a clause comes from only one of the participating languages” (Myers-Scotton, 2006, p. 241). Within a corpus, the ML may vary from clause to clause, although this is unusual. Thus in classic code-switching speaker is “able to produce well-formed utterance in both participating varieties” but only one variety provides the morpho-syntactic frame and acts as matrix language (ibid).

However, there is skepticism regarding considering language as a binary conditional set of ML and EL (Auer & Muhamedova, 2005; Panhwar, 2018) The morpheme order and the occurrence of islands may obscure the identification of matrix languages (Panhwar, 2018). MML model also ill formed some examples that are not supported by grammatical theory (MacSwan, 2000).

Furthermore, Poplack (1980), focusing on the linguistic competence of code-switcher and the degree of integration of languages involved in code-switching, explains

three kinds of code-switching: intra-sentential, inter-sentential and tag-sentential, as indicated in the following figure:

The type and degree of code-switching (Adapted from Poplack, 1980, p. 615)



Inter-sentential switching

Tag-switching

Intrasentential switching

Inter-sentential code-switching occurs at clause or sentence boundaries in which one clause is in one language and the other clause in another, representing an “integrated knowledge of the rules of both languages, including their similarities and differences” (Sankoff and Poplack, 1981, p. 5). However, both languages retain their grammatical independence. This occurs in the speech of fluent bi/multilingual speakers who maintain the grammar rules of the languages as Romaine illustrates in the following example in which the speaker uses first a clause in English (in bold) and switches to Punjabi code (in italics) in next clause (1989, p. 113):

I am guilty in that sense *keziyadawasi* **English** *boldefer ode naleda hwndeketwhadizerizeban e na?*

(I am guilty in that sense that I speak more English otherwise it happens that it is not your own language).

This intra-sentential code-switching is common and has been called the symbolic element of language processing of bilinguals (Van Hell, et al. 2018), it occurs at the word, phrase and clause levels or within the sentential level and may include the “mixing within word boundaries” (Romaine, 1989, p. 113).. However, in intra-sentential switching, both languages integrate certain grammatical properties of the other language. Poplack (2000) considers it a more complex process because the speaker controls two linguistic systems simultaneously in a sentence production and the violation of grammar rules may result in ungrammatical constructions. In the following examples, the speaker has switched languages within a verb and noun phrase respectively:

1. *Wsi* **mixkarderehne**
(We are mix [mixing] (Romaine, 1989, p. 113):
2. **Moonmovie tickets** *wart, ahin.*
(I have purchased movie tickets.) (Panhwar, 2018, p. 194)

Poplack (1980) states that speaker’s with advanced linguistic competence mostly rely on intrasentential and intersentential switching. However, Silva-Corvalán and

Treffers-Daller (2009) and Panhwar (2018) disagree and state that linguistic competence cannot work unless a speech community accepts such switching as standard practice.

The third type is tag or emblematic code-switching which generally integrates exclamatory or interjections (Poplack, 1980). This is a simple type of code-switching with a minimal risk of grammatical violation because interjections or exclamatory words do not form a complete embedded phrase as indicated in the following example where English tag code-switching is used in the Sindhi utterance

Actually, muhinjo mutlab ihio na ho.
(*Actually, I don't mean that*) (Panhwar, 2018, p. 194)

Gumperz (1982) treats tag switching as sentence fillers while Milroy and Muysken (1995, p. 8) views them as an extra-sentence or emblematic sentence which are comprised of one or two words, contain an expressive meaning, and act as connectives and fillers. Callahan (2004) views tag code-switching as a discourse marker which acts as the contextual coordinates of talk in a conversation.

A couple of the recent approaches to understand intra-sentential code-mixing are electrophysiological and experimental-behavioral approaches, the former deals with the comprehension of code-switching which is presented through audio-visual media, and the later deals with analyzing the code-switching through experimental-behavioral events like self-paced reading (Van Hell, et al., 2018).

Conclusion

A thorough review of theories and approaches to code-switching has made it clear that various sociolinguistic, psycholinguistic and structural approaches to code-switching have a tendency to overlap one another in different studies. It can be a perplexing task for researchers to sift through these theories and approaches and clearly demarcate their boundaries. This overview has attempted to clearly demarcate these three major approaches through their evolution with time. This overview offered readers an insight into compartmentalized approaches to code-mixing by enumerating various theories and research areas.

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