

## LANGUAGE MIXING AND SWITCHING IN MALAYALAM - ENGLISH BILINGUAL APHASICS

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### ABSTRACT

*Language mixing defined as inappropriate switching from one language to another, is a frequently observed recovery pattern among bilingual aphasics. In spite of the fact that a significant amount of population in India is bilingual, language mixing is one of the least researched areas. Also, the distinction between language mixing exhibited by bilingual aphasics and the normal process of code switching employed by neurologically normal bilingual speakers is not very marked. Hence, the present study was taken up with the purpose of investigating the similarities and differences in the code switching behaviors of aphasics and neurologically normal Malayalam-English bilingual speakers. There was an increase in code switching behavior but the quality of switches did not differ when compared with those in normal subjects. These results could be a reflection of increased reliance on two languages as a compensatory strategy in this set of subjects.*

### INTRODUCTION

Code switching is the alternative use by bilinguals of two or more languages in the same conversation (1). The ability to switch linguistic codes, particularly within single utterances requires a great deal of linguistic competence (2).

Code switching is a linguistic practice constrained by grammatical principles and shaped by environmental, social and personal influences including age, length of time in a country, educational background and social networks (3). Aphasic impairments in bilinguals or multilinguals virtually affect all the languages an aphasic knows. Languages have been shown to behave differently or equally with equal or unequal extent of interference and substitution. Bilingual aphasic speakers, like all speakers of multiple languages are required to identify and use the language or languages appropriate to communicative interactions. Aphasic speakers have reduced linguistic competence and face potential disruption in their ability to alternate linguistic codes (4).

Perecman (4) investigated language mixing in a trilingual male with a history of brain trauma who demonstrated language mixing and unsolicited spontaneous translation in conversational speech. Perecman observed that these behaviors were atypical of neurologically intact multilinguals and indicative of a language deficit.

Grosjean (5) commenting on Perecman (4) argued that both language mixing (including utterance level mixing) and spontaneous translation are also found in normal polyglots, and thus may not always reflect language deficits in aphasics. Only a good assessment of the patient's language and speech before and after the injury will determine if these behaviors do indeed reflect deficits.

Language mixing is a frequently observed recovery pattern among bilingual aphasics characterized by alternating language use at the word or sentence level, spontaneous translation, unexpected language switches, and / or linguistic interference (6). Munoz, Marquardt and Copeland (7) compared the code switching patterns of aphasics and neurologically normal bilingual speakers of English and Spanish using the Matrix Language Frame (MLF) model (8). Results showed that aphasic subjects use a greater amount of code switching. This suggests an increased dependence on both languages for communication following neurological impairments.

In the present study, the term code switching will be used to describe the alternative use of two languages in a conversational discourse, by both normals and aphasics. Bilingualism is one of the less researched areas but has become an area of interest for present aphasiologists. According to de Bot (9), 50% of the world's population is bilingual. According to Mahapatra (10), 80% of India's population is bilingual / multilingual. In spite of such figures bilingualism is still one of the least researched areas in India. Bilingualism as it exists in India, cannot be confused with the situation generally existing in the western world. As noticed by Mahapatra (10), the bilingualism in the western world is not at a grass root level as in India. Hence, it is difficult to generalise results obtained from western studies, especially in terms of code switching, into the Indian context.

Aphasia in bilinguals is also least researched upon, especially in Indian context. It is important that language variables be studied for intervention purposes. Hence, it is very important to investigate the language switching in bilingual aphasics in comparison with normals. So this study puts a foot forward in investigating and explaining the bilingual phenomena of language mixing in aphasics as well as normals.

## **METHOD**

**Subjects:** Two groups of subjects were taken; control group consisting of neurologically normal individuals and experimental group consisting of aphasic subjects.

Both the experimental and control group consisted of six Malayalam - English bilingual adults. They were matched in terms of age, gender, handedness, social and educational level and language proficiency in both Malayalam and English. Language proficiency in two languages was matched based on responses to Part-A of bilingual aphasia test (BAT, 11).

All the individuals in the experimental group were diagnosed as having Broca's aphasia in both Malayalam and English using the Western Aphasia Battery (12). All the six subjects had a history of left hemisphere cerebro-vascular accident confirmed by neurological examination and computerized tomography.

### **TEST MATERIALS**

- Western Aphasic Battery (WAB, 12) was used to identify the Broca's aphasic population.
- The presence of code switching was studied using Paradis' Bilingual Aphasia Test (BAT, 11)
- The various sections in BAT were thus used to find out the instances of code switches exhibited by subjects.

During the test administration, the communicative partners were strictly instructed to speak only the assigned language in the monolingual conditions.

Analysis: The collected data was analyzed for code switching in terms of the language choice, lexical semantic, syntactic, morphological and phonological levels of switching and spontaneous translation. The relation between language history and code switching behaviour was also studied.

### **RESULTS**

In the present study, the data obtained from the administration of Bilingual Aphasia Test (English-Malayalam) was analyzed to study and compare the code switching patterns exhibited by aphasics and neurologically normal individuals.

Analysis was done in terms of the language choice, lexical- semantic, syntactic, morphological and phonological levels of switches (4). The relation between language history and code switching behaviour as well as spontaneous translations were also studied.

### **LANGUAGE CHOICE**

It was found that all controls and three of the aphasic subjects responded in the language established by the interlocutor. The other three aphasics preferred Malayalam, the dominant language to converse in, even in monolingual English context.

The normals and other aphasic subjects occasionally used some Malayalam utterances in the monolingual English condition, though they were instructed to speak only in English. This use of Malayalam in English context may be a deliberate choice to establish shared group identity regardless of the language skills of the conversational partner. This notion is supported by other authors (5,7).

It was also noticed that, in five of the six aphasics and two of the normals, the latency of the utterances were more in English than in Malayalam that is, the reaction time, though not formally measured, was found to be longer in monolingual English context. This could be because these subjects were less fluent in English than in Malayalam.

On the task of confrontation naming in monolingual Malayalam context, many utterances were made in English by both normal and aphasic subjects, which cannot be explained as borrowed forms. But these words are judged as being used very commonly by Malayalam-English bilingual speakers in daily utterances as they are lexically integrated into the language  
Eg : /pen/ /book/ /key/.

### **Lexical - Semantic level switching**

This can be analyzed in terms of word level switching or phrase level switching. Word level mixing was produced by four normals and six aphasic subjects in monolingual Malayalam context and by three aphasics in monolingual English context.

e.g : Malayalam Context

# nan samsaritʃa ailə entə teacher a:nə

The person with whom I spoke is my teacher.

# a: manuʃ anə utʃakkə exam ka:num

That person may have exams in the afternoon

# vi: til randə brother undə

I have two brothers at home.

English Context

# Bus vanilla

Bus has not come

# The branch odinu man and birds ta:rə vi:nu

The branch broke and the man and the birds fell down.

# One boy and girl standing under the tree, appam crow is sitting on the tree.

One boy and girl are standing under the tree. Then a crow is sitting on the tree.

Phrase level mixing was produced by both aphasics and normals. Both the groups were observed to begin an utterance in one language without forming a complete constituent in the first language. This phrase level mixing was noticed in both monolingual Malayalam and monolingual English contexts.

Eg : # randə pilla : rə pinnə wife is there

Two children then wife is there

# The and .... of the box ..... send of the ..... sarija : vunilla anottə

The and ... of the box ..... send of the ..... It is not coming.

Phrase level mixing was also reported by Schwartz (13) in a 49-year-old hexaglot Indian woman whose paroxysmal aphasia was manifested as the intrusion of totally irrelevant phrases and sentences in a language other than the one currently spoken.

### **Syntactic Switching**

It is the use of the grammar of one language with the lexical items of the other language. Two of the normals and four of the aphasics, while translating from Malayalam to English used the syntactic structure of Malayalam, though the lexical items were in English.

eg:

# Yesterday you saw a boy that was my brother.

Malayalam equivalent : innale ni: kanda a:nkutti enteə saho:baranandə

Correct translation : The boy whom you saw yesterday is my brother.

# One who eating salt, he will drink water.

Malayalam equivalent : uppu tinnunnaven vellam kudikkum

Correct translation : One who eats salt shall drink water.

# I was going the house that is in this way.

Malayalam equivalent : na:n po:ja vidə e: varijila:nə

Correct translation : The house where I went to is in this way.

In Malayalam, the word order is not as rigid as it is in English. From the examples given above, it is evident that when doing a translation task, the subjects formed the English sentences in the syntactic framework of Malayalam.

Perecman (4) reported syntactic level mixing in aphasics and described it as an abnormal phenomenon. But in the present study, the syntactic level mixing was found in normals also, drawing support from Grosjean (5) who argued that both language mixing and spontaneous translations are also found in normal polyglots, and they may not therefore always be reflecting language deficits in aphasics.

### **Morphological Switching**

It was observed mostly in terms of the mixing of free morpheme in one language and the bound inflectional morpheme in the other language. This was seen mainly in the monolingual Malayalam context. This was produced by two normals and four aphasic subjects.

Eg :

# na : n eight ninth tenth classil patippikkunnu

I am teaching in eight ninth and tenth classes

# Father mother ellam sixthil patikumbol maritu po:ji

Both father and mother passed away while (I) was studying in sixth.

# antintə se: Jam hospitalilekə kondu po:ji

After that (I) was taken to the hospital

### **Phonological Switching**

This was noticed in only one of the aphasics. None of the other aphasics or normals exhibited phonological level mixing.

Eg: bala for vala which means bangle.

Phonological level switching has been reported by Perecman (4) also.

### **Translations**

Spontaneous translations were mostly observed in confrontation naming tasks. Four of the six aphasics and two of the normals labeled the target in both English and Malayalam.

Eg: # pen ..... pe : na. (pen..... pen)

# book ..... pustakam (book ..... book)

# vala ..... bangle (bangle ..... bangle)

another example is

# vipari : tam oh opposite

opposite oh opposite

In literature, translations are reported by Lin (14) and Perecman (4).

Two of the aphasic subjects were able to produce the target word after being given a phonemic cue, indicating a difficulty in accessing the word rather than a lack of knowledge of the word in a particular language. Eg : One of the aphasic subjects when asked to say the days of the week in monolingual Malayalam context started saying Sunday, Monday etc., but on cueing was able to say the Malayalam translational equivalent of the days of the week.

On the other hand, all the subjects except one aphasic recited the names of the months in English though the question was asked in monolingual Malayalam context. On phonemic cueing two more aphasics and one normal subject were able to recite the Malayalam months. But the others were not able to do it indicating that the English months have become a borrowed form in Malayalam. All subjects exhibited circumlocutions, a pattern typical to aphasics and second language learners.

## **DISCUSSION**

A consensus is yet to be reached as to whether this language mixing exhibited by bilingual aphasics is a pathological phenomenon or just a natural phenomenon exhibited by even neurologically normal bilingual individuals. While authors like Perecman (4) argue that language mixing (and especially utterance level mixing) reflects a linguistic deficit and that spontaneous translation indicates a paralinguistic processing deficit, others (5,7) opine that language mixing and spontaneous translations are behaviors that are also found among normal polyglots, and that they may not therefore always reflect deficit in aphasics.

The code switches and spontaneous translations in the speech of polyglot aphasics can have many causes. Some reflect the language and conceptual deficits mentioned by Perecman (4), but others are the results of conscious, deliberate communicative strategies on the part of the patients. This results in increased frequency of occurrence of code switching

The results of this study reveal similarities and differences in how neurologically normal and aphasic bilingual speakers code switch or alternatively use two languages in an interaction. Many of these were considered indicative of a language disorder by previous researchers (4).

Individual differences in the frequency and type of constituents produced and the contexts in which they were produced were evident in the code switching patterns of bilingual aphasics. These similarities and differences may indicate that aphasic speakers are adopting normally occurring code switching patterns to enhance communicative effectiveness.

Individuals in both groups also exhibited the use of a second language in monolingual contexts and spontaneous translation, behaviors considered inappropriate and thus characteristic of language mixing (5). However, since both patterns were observed in the speech of the normal and aphasic subjects, they are clearly acceptable in the local speech community. The code switching exhibited by aphasics thus, may not be an inappropriate behavior, but rather an atypical and disruptive increase in the frequency of use of normally occurring code-switching patterns (7).

Code switching may be a conscious or unconscious strategy used by the bilingual aphasics to access the correct word in either language. A word in one language may function as a "paraphasia" in the second language but does not affect communication as a paraphasia

because it is semantically accurate (6). Hence a bilingual aphasic may benefit from learning strategies, which develop code switching into a means of enhancing functional communication, particularly for a patient who resides in a bilingual community.

As stated earlier it was noticed that in monolingual Malayalam contexts two of the aphasic subjects started reciting the days of the week in English but reverted to Malayalam on giving a phonemic cue. This indicates a difficulty in lexical retrieval rather than lack of knowledge of the word in Malayalam, a conclusion supported by their language history. It appears that aphasia can selectively disrupt access to a lexical item in one language while sparing access to the item in the other language resulting in an inability to match the language of the context. Hence, aphasic subjects may be "forced" to code switch in view of the effects of the linguistic impairment (7).

The code switches which are seen during the testing can simply be the reflection of the patient's normal interference behaviour before injury since language knowledge and language behaviour of the aphasic subject before injury also plays a significant role in the pattern of code switching exhibited by the aphasic patients. This is evident from the fact that both normal and aphasic subjects who were less proficient in English than Malayalam exhibited similar kinds of code switches.

This comparison of code switching patterns in normals and aphasic subjects thus reveals a pattern that reflects similar types of code switching abilities in both the groups. However, the aphasic patients code switch, borrow and translate more after the injury than before, and this increase in mixing of the languages may be shown as a deficit. Such a notion is supported by Grosjean (5) and Munoz, Marquardt and Copeland (7) who stated that disruption in the code switching of bilingual aphasics is not limited to language mixing and is more complex than a dichotomous decisions regarding appropriateness. Thus, the behaviour of code switching itself is not abnormal but the increased frequency of the behaviour makes it appear abnormal. In fact, code switching may actually be a compensatory mechanism in lexical accessing in the deficient language.

It is only by means of careful assessment that we will better understand, and therefore better treat, polyglot aphasia. This in turn, will improve our understanding of normal polyglots; their language competencies, their language use, and the mechanisms that allow them to maintain their languages separate in a monolingual speech mode but let them interact in a bilingual speech mode. This in turn would have far reaching implications for language rehabilitation of polyglot aphasics.

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