

Bilingual Phenomena.
Towards the Fateful Triangle of Language Mixture

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1. Introduction

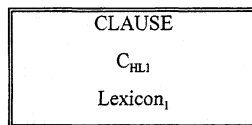
The earliest systematic investigations on language basically dealt with the phenomena related to the competence and performance of one language apart from its possible and feasible mixture with other languages. Nevertheless, bilingual phenomena have been so obvious in human societies that even in those works could not be ignored. As a factor indicating the importance of bilingualism, I recall that "it has been estimated that half the world's population is bilingual." (Grosjean, 1982: vii). In the new era of linguistics, as far as I know, Bloomfield is the first scholar who surveys some aspects of bilingualism. He defines bilingualism as the "native like control of two languages" (Bloomfield, 1933: 55). Borrowing is the only bilingual phenomenon mentioned in his famous book "Language": "Still other resemblances (between languages) are due to the borrowing of speech forms. In modern Finnish, there are many words like *abstraktinen* "abstract", *almanakka* "almanac", and so on, which have been borrowed in the last centuries from a European language into the other (Bloomfield, 1933: 298). Speaking with our new terminology, by borrowing he means established loan-words. He suggests that these words are subject to the system of the borrowing language. "Grammatically, the borrowed form is subjected to the system of the borrowing language, both as to syntax (*some rouge, this rouge*) and as to the indispensable inflections (*garages*) and the fully current, "living" constructions of composition (*rouge-pot*) and word-formation (*to rouge, she is rouging her face*) (Sankoff et al., 1990: 71). But apart from these observations, the first book exclusively dealing with bilingual phenomena is Weinreich (1953). The preface of this book written by the famous linguist Martinet indicates the prominent position of this "scientific exploration of contemporary bilingual pattern" (Weinreich,

1953: ix) on the linguistic researches of our time. Weinreich defines *bilingualism* as the practice of alternately using two languages, and the persons involved are *bilinguals*. Then, he defines "interference phenomena" as "those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language, i.e. as a result of language contact" (Weinreich, 1953: 1). It is these phenomena of speech, and their impact on the norms of either language exposed to contact, that invite the interest of linguist. From the time that Weinreich, as the forerunner in the field of language contact, defined bilingualism as such, this discipline has had a lot of progress. It is now known that the mixing of two languages in bilingual discourse may result not only from borrowing (either on the community or individual levels), but also from code-switching, incomplete language acquisition, interference and so on (Poplack & Sankoff, 1988: 1174). So, bilingual phenomena make up an important part of sociolinguistic research.

This paper surveys some aspects of these phenomena. In section 2, the controversy between code-switching and borrowing is investigated, and I will see that this distinction really exists and also it is one of the keys to the understanding of bilingual phenomena. In section 3, I will survey Mahootian's "A Null Theory of Code-switching", which is partly on Persian/English languages on which I have collected data that in turn can serve as a test of Mahootian's Null Theory of Code-switching (henceforth NTCS). I will survey her work from different points of view and show that her theory adds nothing to the understanding of bilingual phenomena. In section 4, I will give a report on my own empirical research on Persian-English discourse. There, I will show that lone items in my corpus do not violate the Equivalence Constraint and support the Nonce Borrowing Hypothesis. In section 5, I will give a summary of the paper, and argue for the adequacy of the triangle the Equivalence Constraint, the Free Morpheme Constraint, and the Nonce Borrowing Hypothesis for analysing any bilingual phenomenon.

2. Borrowing and code-switching

When two languages intermingle in bilingual discourse, this mixture may take on different forms and may be the result of various processes. As the point of start, I recall that in modern syntactic theories, it is a standard assumption that a language consists of a lexicon and a computational system. So, in the monolingual situation, the interaction of these two components determines the actual representation of a language. This process has been expressed in the earlier versions of the Government and Binding Theory, and in its latest reading, i.e., the Minimalist Program: "Another assumption (in the Minimalist Program) is that a language consists of two components: a lexicon and a computational system, with their idiosyncratic properties. The computational system uses these elements to generate derivations and SD_s (structural descriptions or linguistic expressions). The derivation of particular linguistic expression, then, involves a choice of items from the lexicon and a computation that constructs the pair of interface representations, i.e. Phonetic Form (PF) and Logical Form (LF)" (Chomsky, 1996: 168). Accordingly, a language in a monolingual situation may be shown as follows schematically:



(where C_{HL} stands for computational system of human language.)

In bilingual discourse where the components of two languages interact, the situation is more complex. The following schema illustrates this situation¹:

1. The original idea for this schema is from Muysken, (1987).

CLAUSE C_{HL1} Lexicon ₁ Lexicon ₂	CLAUSE C_{HL1} C_{HL2} Lexicon ₁	CLAUSE C_{HL1} C_{HL2} Lexicon ₁ Lexicon ₂
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1. Borrowing 2. Structural Interferenc 3. Code-switching

Theoretically, we can suppose these three cases for bilingual discourse. Concerning structural (grammatical) interference, I agree with Muysken (1987) "that little is known about this type of process. We do not know with what kind of bilinguals it occurs, in which speech situations, how it is structurally constrained, etc. Neither do we know it is related, if at all, to the type of interference or transfer found in language learning processes, etc" (Muysken, 1987: 360). So, in a bilingual situation, the other two processes show up more. In borrowing, a computational system interacts with two lexicons, and in code-switching, two computational systems interact with two lexicons. Considering this observation, it is logical to deal with borrowing and code-switching as two basically distinct processes. And it is in line with Poplack & Meechan (1997) who base their bilingual analysis on proving the hypothesis that code-switching and borrowing differ as processes (Poplack & Meechan, 1997: 4). Not only Poplack & Meechan (1997), but also a large body of research has proven the distinction between code-switching and borrowing to name only a few I should refer to papers included in International Journal of Bilingualism (No. 1), i.e. works by Adalar & Tagliamonte, Budzhak-Jones, Eze, Ghafar Samar & Meechan and Turpin. These works together with the accumulating evidence in Meechan & Poplack (1995). Meechan, Tagliamonte & Poplack (1996), Poplack (1997), Poplack & Meechan (1995), and Sankoff et al. (1990), all demonstrate the distinction between code-switching and borrowing. In view of these findings, any theory dealing with bilingual phenomena needs to take into account the discrepancy between borrowing and code-switching, otherwise risks treating together phenomena which are distinct. In the next paragraph, I will review the concepts borrowing and code-switching and explain the areas they operate.

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Sankoff et al. (1990) define borrowing and code-switching in the following way: "When fragments from both codes alternate within a single sentence, this is often called intrasentential code-switching, especially if each fragment consists of more than a single noun or other content word. In this kind of bilingual phenomenon, the internal structure of sentence fragments in the two languages is grammatical by monolingual standards from the standpoint of appropriate function words, morphology and syntax. When a single word etymologically belonging to one code (the donor) appears in a sentence that is otherwise entirely in the other code (the host), this may well be the result of borrowing, particularly, if the word is known to monolingual speakers of the host language." Then, they emphasize the clear distinction between borrowing and code-switching: "Code-switching and borrowing are two very different processes, at least at the level of how they operate. Code-switching within the confines of a single sentence requires access to the syntactic apparatus of both languages, because as is generally observed, each of the monolingual fragments making up a code-switched sentence is internally grammatical by the rules of its language. Borrowing, on the other hand, operates independently of the grammar of the donor language, though it may involve lexical items from that language that are not yet incorporated into the monolingual vocabulary of the host language, and these items may retain aspects of the donor language phonology" (Sankoff et al., 1990: 72). As I discussed earlier, the computational system and the lexicon interact in a single sentence, and the different arrangements of this interaction determines the type of the bilingual phenomenon produced, i.e. if this linguistic mixture is borrowing or code-switching. Some scholars have extended the area of function of borrowing and code-switching to conversation in order to include a phenomenon which has been labelled as intersentential code-switching in the literature. For example, Myers-Scotton (1993: 3) defines code-switching as follows: "Code-switching is the selection by bilinguals

or multilinguals of forms from an embedded variety (or varieties) in utterances of a matrix variety during the same conversation". Then she continues: "Intersentential code-switching involves switches from one language to the other between sentences: a whole sentence (or more than one sentence) is produced entirely in one language before there is a switch to the other language (s) in use in the conversation" (Myers-Scotton, 1993: 4). Considering that "sentence denotes a free-standing *clause* which is not contained within some larger expression", and that a "clause is an expression which contains a subject and a predicate and which may contain other types of expression as well" (Radford, 1997), for the purpose of this work, I confine the scope of borrowing and code-switching to sentence or clause rather than larger grammatical units such as paragraph or even discourse. In my opinion, intersentential code-switching is not the result of the mixture of two languages, but the result of their coordination. So, no special treatment will be necessary for this process and it can be entirely excluded from our discussion. I recall that Myers-Scotton (1993:vii), when defining code-switching as "the accessing of multiple languages within the same sentence", and following her specific grammatical goal, confines her discussion to intrasentential code-switching.

To sum, I concur with those who have concluded that borrowing and code-switching are essentially two different phenomena which should be treated differently. Also, in my research, I confine code-switching to intrasentential code-switching.

3. An Overview of "NTCS"

In this section, I survey Mahootian's "A Null Theory of Code-switching", which is partly on Persian/ English languages on which I have collected data that in turn can serve as a test of Mahootian's NTCS. Mahootian implicitly claims that her theory replaces all other theories (NTCS: 1), and if her theory is used, there will be no need for previous constraints and hypotheses in the field (NTCS: iii). As a matter of fact,

her main challenge is what I call "the Fateful Triangle"², i.e. the Equivalence Constraint, the Free Morpheme Constraint and the Nonce Borrowing Hypothesis where she states: "my model accounts for switches between languages with dissimilar word orders, switches between bound and free morphemes, and single word switches often regarded as borrowing in code-switching literature" (NTCS: 4). I will see that due to underlying critical inadequacies in her argumentation, she adds nothing to the understanding of bilingual phenomena and her null theory of code-switching proves to be really null.

3.1. The Status of Linear Order in NTCS

Mahootian suggests that the Equivalence Constraint operates on linear order, "rather than in terms of structural relations", and considers this kind of operation a failure for the Equivalence Constraint. Then, she continues: "This means that the constraint disregards the hierarchical relationship among categories and constituents, which in turn means that code-switching is viewed as a linguistic phenomenon apart from any theories on first language acquisition, second language acquisition and most principles of grammar in general." (NTCS: 20). In syntactic theory, the linear order of the sentence has been normally assumed to be independent of the hierarchical structure, and also the importance of the latter has been over-emphasized. The notion of the superiority of the hierarchical structure over the linear order has been recently challenged by Richard Kayne (1994: 131). Kayne proposes a Linear Correspondence Axiom (LCA) that brings the hierarchical and linear order together. It does so by establishing a mapping between asymmetric c-command and linear precedence and requiring that the result of the mapping be a full linear ordering of the terminals of

2. The term is borrowed from the title of Chomsky's "The Fateful Triangle: Israel, Palestinians, and the U.S.A". Chomsky considers in this book these three sides as the sides of a triangle which determine the future of the problem in the Middle East. In the same spirit, the term "The Fateful Triangle" denotes The Equivalence Constraint, The Free Morpheme Constraint, and the Nonce Borrowing Hypothesis, which have important consequences in understanding different bilingual phenomena and are decisive in explaining them.

the phrase marker in question. From this perspective, linear order turns out to be more fundamental to syntax than is normally thought. So, Mahootian's claim for discrediting the Equivalence Constraint by virtue of the priority of hierarchical relationship on linear order is no longer valid in syntactic theory.

3.2. NTCS and Tree-Adjoining Grammar (TAG)

Mahootian adopts the lexicalized version of Tree-Adjoining Grammar (TAG) as the formalism for instantiation of her model (NTCS: 142). Nevertheless, she states that this formalism is not central to her arguments (NTCS: 148). Considering her own assertion about the non-centrality of TAG in her model and also considering the fact that the analysis of TAG is a purely syntactic argument, I do not survey it in this sociolinguistic research. The comprehensive survey of TAG and its possible applicability in a sociolinguistic experiment needs an independent research. Compound nouns have been integrated into Persian structure, and therefore are instances of nonce borrowing.

3.3. NTCS and the Free Morpheme Constraint

Following her objective in substituting other theories with her own theory, Mahootian has no other choice but rejecting all other theories dealing with bilingual phenomena, one of which the Free Morpheme Constraint. This theory was proposed by Sankoff & Poplack (1981), on the basis of a series of empirical studies of verbal interaction in one of the oldest Puerto Rican communities in the United States, as a general constraint on code-switching. It prohibits switching of a bound morpheme of one language with the phonologically unassimilated lexical form of another language. As long as Mahootian's argumentation is based on her Persian data, I see no validity in her discussion. The following are the body of this kind of linguistic mixture in her data:

- (1) *idiot* - hā (NTCS : 90, 91, 123, 182)
____ - Pl
"these idiots"

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- (2) *math* - eš (NTCS : 91, 122)
____ - 3rd Sg
"her math"
- (3) *house* - i (NTCS : 92, 182)
____ - indef
"the house"
- (4) *ādam* - e *smart* - i (NTCS : 103, 125, 160)
person - e ____ - indef
"a smart person"
- (5) *program* - i (NTCS :158)
____-indef
"a program"

Mahootian states: "there were numerous switches between the bound nominal inflections of Persian and English nouns" (NTCS: 91). Contrary to Mahootian's claim, my analysis reveals that such cases are not instances of "switches between the bound nominal inflection of Persian and English nouns", but, as I discussed above, all of them have taken all characteristics of the recipient language. That is, all of them are examples of nonce loan-words which have been assimilated into Persian. So, this observation is in the line with the Free Morpheme Constraint. Then, she continues, "there were only two switches between verbs and verbal inflections" (NTCS: 91), but she does not display these two switches in her data. Instead, she talks about the structure of Persian verbs and tries to relate the shortage of this kind of switching to the structure of verbs in this language. Surprisingly, she ignores the huge class of compound verbs in Persian. As discussed earlier, the main body of Persian verbs are compound verbs which are made up of stem + *kardan*. In this structure, the verbal inflections are reflected on *kardan* not on the stem. So, whenever an English verb is used in Persian discourse, it will fill the slot of the stem

and as its conclusion there will be no bound morpheme to juxtapose the English verb. In my reasoning, I have discussed that these English verbs used in Persian sentences have been integrated into Persian, and, exactly similar to English nouns, are instances of nonce loanwords in Persian discourse.

3.4. From Bilingualism to Multilingualism

After recalling that the Equivalence Constraint postulates a third grammar for the bilingual speaker comprising the lexicon of the two languages, plus grammatical categories of the two languages, Mahootian raises this question: "If Grammar 3 is a combination of the lexicon and grammatical categories of Grammars 1 and 2, what happens when the bilingual becomes trilingual?" (NTCS: 19). Mahootian would have no problem with a grammar for trilingualism and even multilingualism, if she had paid more attention to Haugen's definition of bilingualism (Grosjean, 1982: 232), which she states her view of bilingualism concurs with Haugen's definition (NTCS: 12), where she says: "Bilingualism... may be of all degrees of accomplishment, but it is understood here to begin at the point where the speaker of one language can produce complete, meaningful utterances in the other language." If we substitute bilingualism with trilingualism in this definition, Mahootian's anxiety will be eliminated. So, in trilingualism, the speaker of one language can produce complete, meaningful utterances in the other *two* languages. The other point ignored by Mahootian is the fact that regardless of the number of languages involved, in the switch site, only two languages are involved, and it is the situation where the Equivalence Constraint works. The following is a clear example of the juxtaposition of four languages in one poem. In producing this poem, the elements of four distinct languages serve. This poem is made up of Persian, English, Arabic and Turkish, and was made by high school students in Iran. Recall that Persian is the official language of Iran, English is taught in high schools as a foreign language, Arabic is taught as the religious language, and Turkish is the mother tongue of about 30% of the Iranian population.

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- (6) qāla the teacher "gabura pā taxte".
 Arabic English Turkish Persian
 said-he _____ come-imperative to the blackboard
 "The teacher said: "Come to the blackboard."
- (7) in lesson seven lesson seven very very saxt - e
 Persian English English English Persian
 this _____ _____ _____ difficult-is
 "This lesson seven is very, very difficult."

Sentence (6) has an Arabic structure. Arabic is a VSO language. So, this sentence starts with the verb *qāla*, followed by its subject *the teacher*. Then we have a quotation or reported speech internally structured in Turkish. Sentence (7) has a Persian structure. In this sentence, the predicative adjective *saxt* precedes the linking verb *e*. The elements of both English and Persian are used in this sentence. This quadrilingual utterance can be optimally explained by the Equivalence Constraint and by the Nonce Borrowing Hypothesis. In the first sentence, the English NP *the teacher* is an example of nonce loanword in an Arabic structure. This NP is wholly inserted in the subject slot, which can be explained by the Nonce Borrowing Hypothesis. After the English NP, we face an instance of inter-sentential code-switching, i.e. the reported speech. I have discussed that, by definition, in this kind of code-switching the whole sentence or clause is produced entirely in one language before there is a switch to the other language. (Myers-Scotton (1993: 3) This quotation has a Turkish structure with a Persian adverb borrowed into Turkish and is an instance of nonce loanword. In sentence 2, the English elements in the Persian structure can be explained by the Equivalence Constraint. It is clear that the sentence has a Persian structure. In the subject position of this sentence, we have an NP made up of a Persian determiner *in*, and an English compound noun *lesson seven*. The switching point is an equivalence site in both languages, so it is a code-switching

which can be explained by the Equivalence Constraint. The second English element in this Persian sentence is the adverb *very* preceding a Persian adjective *saxt*. Again, English and Persian have the same structure, so it is an equivalence site which can be explained by the Equivalence Constraint.

In our discussion in this part, we observed that contrary to Mahootian who considers trilingualism as an obstacle for the applicability of the Equivalence Constraint, the involvement of more than two languages in the discourse has no effect on the applicability of the Equivalence Constraint and Nonce Borrowing Hypothesis.

3.5. Is code-switching constrained or not?

Throughout her dissertation, Mahootian challenges the idea of constraints on code-switching proposed by other theories especially by the Equivalence Constraint and the Free Morpheme Constraint. The following sentence has been repeated in her work several times (NTCS:iii, 3,138,186): "I propose a null theory of code-switching, one in which no special constraints or mechanisms are required to account for code-switching." Surprisingly, she forgets her main claim and states, "a conclusion that code-switching is ad hoc and random, therefore *unconstrained*, would be hasty and inaccurate" (NTCS: 138). It is clear that she is not able to ignore the occurrence of any constraint on code-switching. As she mentions later, she supposes the same constraints for both monolingual and mixed utterances: "The same principles and derivational constraints that produce monolingual utterances produced mixed utterances, whether the switch involves a single bound morpheme, a single word or an entire phrase" (NTCS: 140). Her latter notion contradicts the Government and Binding Theory based on principles and parameters which she advocates (NTCS: 3).

The GB Theory supposes universal and specific properties for languages. Language specific properties discussed in this theory are postulated to explain cross-linguistic variation. Accordingly, it is completely natural to have a special constraint when two parameters from two distinct languages intermingle. The logical conclusion will be

the fact that the constraints on code-switching can be different from the constraints on the monolingual utterance due to the effect of more than one language on one parameter.

3.6. The Core of Mahootian's Theory

Up until now in this section, I have surveyed the underlying inadequacies in Mahootian's NTCS which shed doubt on the credence of her theory. Now, it is the time to put finger on the core of her theory and empirically show if this theory brings up reasonable predictions or not. Mahootian's theory is based on two hypotheses:

- a. No special constraints or mechanisms are required to account for code-switching (NTCS:iii). In other words, "Switching is not constrained by any special mechanisms or principles specific to switching" (NTCS: 3), and "Speakers have access to the lexicon and the grammar of both languages in contact" (NTCS: 186).
- b. Borrowing and code-switching need not be distinguished. She states: "if clear criteria can not be established to separate borrowing from code-switching, is it appropriate in a syntactic analysis to formulate a theory around what amounts to an arbitrary classification? As long as mixed items do not behave differently syntactically from each other, there is no reason in a formal analysis to distinguish them from each other." (NTCS: 56-57).

Mahootian's approach is in clear contrast to the Nonce Borrowing Hypothesis which assumes borrowing and code-switching to be distinguished. So, if a sociolinguistic research can prove that borrowing and code-switching are basically two different phenomena, Mahootian's NTCS will be revoked. And it is what I have tried to do in section 4.

4. A Field Work: Lone English Adjectives and Verbs in Persian context

In order to evaluate the efficiency or non-efficiency of the theories regarding the mixture of languages mentioned earlier, I did a research on English-Persian bilingual discourse. I discussed earlier that the controversy over the distinction between code-

switching and borrowing is the focus of any research on bilingual phenomena. As Poplack & Meechan (1995) state: "The crux of the problem resides in the status of *lone* L_b incorporations into otherwise L_a discourse, a phenomenon that, ironically enough, constitutes the richest portion of any bilingual corpus systematically studied" (Poplack & Meechan, 1995: 200). Following Poplack & Meechan (1995), I make use of the variationist approach to language contact and data from natural bilingual discourse involving English and Persian. By way of this comparative method, I provide an empirical test of whether they are best treated as code-switches or borrowings. If these lone items are code-switches, they should show properties that are the same as L_b. If they are borrowing, they should show the properties of L_a. This approach involves using the facts of variability to determine the language membership of ambiguous items, such as lone English-origin adjectives and verbs in otherwise Persian discourse. In this research, I try to determine what are the patterns of modification of lone English-origin verbs and adjectives in Persian-English discourse. The applicability of this procedure is based on the fact that the systems of the two languages in contact are indeed distinct. To this end, I compare the patterning of unmixed English adjectives and verbs to all other contexts. What I need to do is to show that the ambiguous items are following the system of one but not the other. Once I have determined this, it is possible to tell if the lone items follow the patterns of the language into which they are incorporated, in which case they would be borrowing. If they follow the patterns of their language of origin, in which case they would be code-switches; or if they show completely different patterns altogether.

4.1. Data and Method

4.1.1 Data

Although Persian and English are not typologically two different languages, there are some important non-equivalent sites which can be considered as structural incompatibilities for speakers to cope with in switching among them. The position

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of adjectives in their attributive or predicative forms, or the characteristics of verbs are two clear instances of such non-equivalent sites. In the analysis of the data, I focus on these two categories.

The data upon which this report is based on, comes from a corpus of nine hours of spontaneous discourse, using standard variationist methodology and social network techniques. I interviewed eleven Persian speakers residing in Ottawa, a predominantly English speaking community. Getting their permission, I tape-recorded the interviews. The subjects of the interviews were different and ranged from academic achievements to political issues and even family problems. They were aware of the area of my studies, and knew my interest in linguistic phenomena, but did not know what I was exactly looking for. It was only after the interview that if I observed their eagerness in my purpose of this experiment, I explained to them some aspects of my research on bilingualism. All of the informants were highly educated and have lived in Ottawa a minimum of 4 years and a maximum of 22 years. Two of them had English speaking wives, accordingly English was the mother tongue of their children and so the first language in their families. All of them had at least a university degree. They range in age from 28-48, and 2 out of 11 were women. Their occupational status is shown in the following table:

Professor	Physician	Ph.D. Student	Bachelor Degree	Total
1	1	4	5	11

My corpus contains a number of instances of English-origin elements in otherwise Persian discourse. Although, like any other data set, the number of lone other-language nouns in my corpus quantitatively exceeds other grammatical categories, I have chosen lone English-origin adjectives and verbs in my study because of two reasons. First, the patterning of modification and positioning of ambiguous lone English-origin nouns in otherwise Persian discourse has been clearly studied by

Ghafar Samar & Meechan (1997). So, it is more useful to study other categories. And second, adjectives and verbs constitute an ideal conflict site in our Persian-English corpus. From this corpus, I transcribed every instance of adjectives and verbs, whether English or Persian, in both monolingual and bilingual contexts into Concorder, a concordance application for the MacIntosh. A total of 671 tokens were retained for this study, i.e. 285 adjectives and 386 verbs, either English or Persian.

4.1.2. Method

I mentioned earlier that due to the contrast between the syntactic structure of adjectives and verbs in English and Persian sentences, these categories are appropriate criteria to test language membership of the other language material. The key to the method employed in this study is crosslinguistic study of patterning in the speakers' language. Following this purpose, I use a 3-way comparison. So, for each factor group, I will analyse Persian adjectives and verbs in Persian context (Monolingual Persian), English-origin adjectives and verbs in Persian context, and English adjectives and verbs in English context (Monolingual English). So, I coded all of 671 tokens in my corpus for various syntactic factors. This procedure is divided into two parts, adjective structure and verb structure.

4.1.2.1. Adjective structure

The position of adjective in both attributive and predicative contexts is completely different between Persian and English. So, it is a good example of non-equivalent site for our research. "A non-equivalent site" or a "conflict site" is a critical notion in the comparative study of language mixture. "To unambiguously ascertain the language membership of the bilingual construction, we need to examine areas at which the structures of the language pair do not match, i.e. sites where the grammars of the two languages in contact *conflict*. Where two languages differ in distribution of marking of comparable functions, we can evaluate the system membership of lone other-language items by first determining the rate and conditioning of marking and then comparing them to those of like items in the unmixed source languages. When

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lone items show not only the grammatical structure of their counterparts in the language in which they are embedded, but also enter into these structures at a rate mirroring that of their unmixed counterparts, we infer that they are full-fledged participants in the grammatical system of the recipient language" (Poplack & Meechan, 1995: 9). So, this integration into the grammatical system of the recipient language can be a good criterion to diagnose a language mixture as borrowing or code-switching. Adjectives in Persian occur before the linking verb. This feature which specifies the construction of the Persian predicative adjective is illustrated in (8):

- (8) inhā qadimi hastand (2; 2; B; O.27)³
these old are ⇨ Adj + LV
"These are old."

On the other hand, in monolingual English, adjectives in predicative constructions follow the verb, as in (9):

- (9) It was perfect. ⇨ LV + Adj

It is obvious that the contrast between "Adj + LV" and "LV + Adj" makes up a non-equivalent site in the study of Persian-English bilingual discourse. So, I chose this feature as one of the factor groups in this research.

The position of adjectives in attributive constructions is another factor which distinguishes a Persian structure from an English one. In Persian, adjectives modifying nouns occur in genitive case, that is, they follow the noun. This structure is called Ezafe Construction and is illustrated in (10):

- (10) šāgerd - e - zaif
student weak ⇨ Noun + e + Adj
"the weak student"

As illustrated in (10), in Persian, the attributive adjective follows the noun modified

3. The numbers in parenthesis refer to the speaker number, tape, side, and counter number.

by it, and the morpheme *-e-* intervenes between the noun and adjective. In English, the attributive adjective occurs pre-verbally as exemplified in (11):

(11) "a single fact" ⇔ Adj + N

So, each adjective in each corpus, regardless of language or context, was coded for the type of modification structure in which it occurred. Therefore, I isolated four factor groups: (i) adjective + linking verb, (ii) linking verb + adjective, (iii) noun + morpheme *-e-* + adjective, and (iv) adjective + noun. To conclude this part, we observed that the occurrence of adjectives in attributive and predicative constructions illustrates two non-equivalent sites for English and Persian which are two criteria for determining the membership of English adjectives in Persian-English bilingual discourse. That is, if the lone English-origin adjective in Persian context behaves like an English adjective in English context, the mentioned lone English-origin adjective is an instance of code-switching. On the other hand, if the lone English-origin adjective in Persian context behaves as a Persian adjective in Persian context, it indicates that this lone English-origin adjective is borrowed into Persian and follows the characteristics of Persian syntax. So, the positions of adjectives in predicative and attributive constructions illustrate two conflict sites for Persian and English, which serve as two diagnostics for determining the language membership of lone English-origin adjectives in Persian discourse.

4.1.2.2. Verb structure

In the analysis of English-origin verbs in our bilingual corpus, we face three non-equivalent sites between English and Persian. As said in the case of adjectives, these three sites offer the opportunity to determine the governing language, i.e. they exhibit three more criteria to test the language membership of English lone words in our bilingual data. These three areas of structural non-equivalence are word order, pro-drop parameter and verb agreement.

4.1.2.2.1. Word order

Persian, basically, has an SOV word order, i.e. the object normally precedes the verb:

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- 12) mā bāyad be to F bedim (1; 1; A; 21. 35)
we should to you give ⇨ SOV
"We should give F to you."

However, English is a rigid example of an SVO language:

- (13) "He beat me up." (1; 1; A; 28.58) ⇨ SVO

So, the order of the object and verb in a sentence is an instance of non-equivalence between English and Persian.

4.1.2.2.2. Pro-drop parameter

By definition, a language is pro-drop if the subject can be deleted when it is a pronoun. Persian is such a language as (14) shows:

- (14) ketāb - o xaridam
book - rā bought
"I bought the book."

As (15) illustrates, English does not have this property:

- (15) If you have witness... (1; 1; A; 25. 27)

Therefore, the pro-drop parameter is another characteristic distinguishing between English and Persian.

4.1.2.2.3. Verb agreement

In Persian, apart from single verbs, there is a very productive way of making new compound verbs with the structure stem + *kardan*. This structure is made of a stem, which can be a noun or an infinitive plus the verb *kardan* "to do". In this structure, the agreement is reflected on *kardan*. The following illustrate this structure; in (16), the stem is a Persian infinitive, in (17), the stem is an English verb:

- (16) az šahr - e - mā bāzdid kard
from city us visit did
"He visited our city."

(17) man ro intimidate kardand (1; 1; A; 26.30)

I rā did - they

"They intimidated me."

But (18) illustrates an English verb in monolingual discourse on which the agreement is reflected:

(18) "I taught him."

As discussed earlier in the case of conflict sites for adjectives in Persian and English, these three conflict sites in the structure of Persian and English verbs can be considered as three diagnostics for determining the language membership of lone English-origin verbs in Persian context. That is, if the lone English-origin verbs in Persian context behave as their counterparts in English discourse, they are switched.

On the other hand, if the lone English-origin verbs in Persian context follow the structure of Persian verbs in Persian context, they are borrowed into Persian.

4.2. Results

In the previous subsection, I determined five non-equivalence sites in my bilingual data concerning the structure of adjectives and verbs in English and Persian. Earlier, I discussed that based on the Equivalence Constraint, "the order of sentence constituents immediately adjacent to and on both sides of the switch point must be grammatical with respect to both languages involved simultaneously", i.e. for code-switching to happen, these sites should be equivalent in both languages. So, how should I interpret these lone items in my corpus? Are they violations of the Equivalence Constraint? If they show the characteristics of code-switching, they are.

But if I can prove that the lone English-origin verbs and adjectives in my bilingual Persian-English discourse are borrowings, then from the fact that they occur in contexts compatible with Persian, but not English, these structures cannot be construed as violations of the Equivalence Constraint. Otherwise, this theory should be replaced by another one which can explain such phenomena as well. Here, I discuss these five non-equivalence sites, two of them related to adjectives and three

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of them related to verbs, in my data and show the English elements in this bilingual discourse are cases of borrowing.

4.2.1. Lone English - origin adjectives

We discussed that the position of adjectives reveals two non-equivalence sites in our English-Persian discourse, one is related to the position of predicative adjectives and the other one the position of attributive adjectives. These two conflict sites are two crucial diagnostics for determining the language membership of lone English-origin adjectives in Persian context. Table 1 illustrates the first case, that is the position of predicative adjectives:

	Monolingual Persian		Lone English items in Persian contexts		Monolingual English	
	N	%	N	%	N	%
Before linking verb	59	100%	81	99%	1	5%
After linking verb	0	0%	1	1%	21	95%
Total	59		82		22	

I discussed earlier that predicative adjectives have two absolutely different structures in English and Persian. In English, this kind of adjective follows the linking verb (LV + Adj.); but in Persian, predicative adjectives precede the linking verb (Adj. + LV). So, this structure is a conflict site which can serve as a diagnostic to show the language membership of lone English-origin adjectives in Persian context. If these lone English-origin adjectives are code-switches, we expect them to pattern like their counterparts in their language of origin (the donor language: English). If they are borrowings, they show patterns similar to their counterparts in the language into

which they are incorporated (the recipient language: Persian). As Table 1 shows, in monolingual Persian situation, 59 cases or 100% of Persian predicative adjectives have occurred before the linking verb, and none of them has occurred after the linking verb. On the other hand, in monolingual English situation, there is only one case of English predicative adjectives occurring before the LV, but 21 cases after the LV. In other words, 95% of English predicative adjectives in monolingual English situation have occurred after the LV. So, "Predicative Adj + LV" is a Persian structure, and "LV + Predicative Adj." is an English structure. Now, we look at the lone English-origin adjectives in otherwise Persian contexts. Here, we have 82 lone English predicative adjectives used in bilingual discourse. Out of this corpus, 81 items or 99% of the English predicative adjectives have occurred before the LV, but only 1 of them or 1% has been used after the LV. Since the lone English-origin predicative adjectives in Persian context behaved like Persian predicative adjectives, we conclude that they are integrated into Persian, therefore they are borrowings. This contradicts Mahootian's claim that borrowing and code-switching need not be distinguished, and supports the Nonce Borrowing Hypothesis which asserts that borrowing and code-switching must be distinguished. Table 2 illustrates the position of attributive adjectives in our data:

	Monolingual Persian		Lone English items in Persian contexts		Monolingual English	
	N	%	N	%	N	%
Before noun: Adj.+N	0	0%	0	0%	19	100%
After noun:N+e+Adj	80	100%	23	100%	0	0%
Total	80		23		19	

In Persian, attributive adjectives follow the noun modified by them and the morpheme *-e-* intervenes between them. To formalize it, Persian attributive adjectives have the following structure: "N + e + Adj". In English, attributive adjectives have an absolutely different structure, i.e. they precede the noun which they modify. So, English attributive adjectives can be shown with the following structure: "Adj. + N". Clearly, the position of attributive adjectives is a conflict site in Persian and English which can serve as a diagnostic to show the language membership of lone English-origin adjectives in Persian. If these lone English-origin adjectives are code-switches, we expect them to pattern like their counterparts in their language of origin (the donor language: English). If they are borrowings, they show patterns similar to their counterparts in the language into which they are incorporated (the recipient language: Persian). As Table 2 illustrates, 100% of Persian attributive adjectives in monolingual Persian situation have occurred after the noun, and there is no case of such adjectives before the noun in this situation. On the other hand, all of English attributive adjectives have been used before the noun. This result leads us to the conclusion that "N + e + Adj" is a Persian structure and "Adj + N" is an English structure. Now, look at lone English attributive adjectives in otherwise Persian context. Strikingly, 100% of lone English adjectives have occurred after the noun, i.e. they have been integrated into Persian and are acting as Persian lexical items. Since the lone English-origin attributive adjectives in Persian context behaved like Persian attributive adjectives, we conclude that they are integrated into Persian, therefore they are borrowings. As in the case of predicative adjectives, this contradicts Mahootian's claim which states borrowing and code-switching need not be distinguished, and supports the Nonce Borrowing Hypothesis that borrowing and code-switching must be distinguished.

4.2.2. Lone English-origin verbs

Earlier, we discussed that the distribution of verbs shows three non-equivalence sites

in our bilingual discourse. As in case of adjectives, I will show that these non-equivalence sites are not violations of the Equivalence Constraint, but these lone English items act as Persian lexical items. In other words, these lone English verbs are cases of borrowing into Persian not code-switches. At first, look at Table 3 which illustrates the word order in our data:

	Monolingual Persian		Lone English items in Persian contexts		Monolingual English	
	N	%	N	%	N	%
SOV	196	92%	111	94%	0	0%
SVO	16	8%	7	6%	56	100%
Total	212		118		56	

Table 3 illustrates the position of the verb in a sentence. In Persian sentences, the verb normally follows its subject and its object, i.e. Persian is an SOV language. That is why this language is called a verb-final language. But English is a verb-initial language, i.e. in this language the verb precedes its object which makes English an SVO language. So, the word order is another conflict site for Persian and English which can serve as a diagnostic to show the language membership of lone English-origin verbs in Persian context. If the lone English-origin verbs are code-switches, we expect them to pattern like their counterparts in their language of origin and precede their objects. If they are borrowings, they should show at least quantitatively patterns similar to their counterparts in the language into which they are incorporated, that is these lone English-origin verbs should follow their objects.

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As Table 3 shows, 196 cases of Persian verbs or 92% of them have occurred in the final position of the sentence. In other words, the sentences in which these verbs have been used show a Persian SOV word order. On the other hand, only 16 cases of Persian verbs in Persian contexts or 8% of them have occurred in a sentence which has an SVO word order⁴. In the monolingual English situation, all of the English verbs have occurred in a sentence with an SVO word order. This observation leads us to suppose SOV as the major Persian word order, and SVO as the English word order. Now, look at the lone English verbs in the Persian context, i.e. in the bilingual discourse. Here, 111 verbs or 94% of lone English verbs have occurred in the final position of a sentence, and only 7 verbs or 6% of the lone English verbs have been used in an SVO word order. Since the lone English-origin verbs in Persian context behaved like Persian verbs in monolingual Persian, we conclude that they are integrated into Persian, therefore they are borrowings. This contradicts Mahootian's claim that borrowing and code-switching need not be distinguished and supports the Nonce Borrowing Hypothesis which asserts that borrowing and code-switching must be distinguished.

Now look at Table 4:

4. It should be noted that although Persian is dominantly an SOV language, the SVO word order is not

Table 4: Pro-drop parameter						
	Monolingual Persian		Lone English items in Persian contexts		Monolingual English	
	N	%	N	%	N	%
Absence of pronoun	117	80%	73	81%	1	1%
Presence of pronoun	29	20%	17	19%	53	99%
Total	146		90		54	

Table 4 illustrates another non-equivalence site in our bilingual corpus which can be used as a measure to test the language membership of the lone English-origin verbs in Persian context. In English, the subject, either a noun or a pronoun, should be present in the surface structure of the sentence. Contrary to English, in Persian the pronominal subject is normally absent from the surface structure of the sentence. This phenomenon which is called the pro-drop parameter is a conflict site which can serve as a diagnostic to show the language membership of the lone English-origin verbs in Persian sentences. If the lone English-origin verbs are code-switches, we expect them to pattern like their counterparts in their language of origin, i.e. they appear in a sentence with an overt pronominal subject. If they are borrowings, they show patterns similar to their counterparts in the language into which they are incorporated, that is the lone English-origin verbs appear in a null subject sentence.

In monolingual Persian situation, in 117 sentences, the pronoun subject is absent, i.e. 80% of sentences have the pro-drop parameter property. In the same Persian corpus, only in 20% of the sentences, the pronoun subject is present, i.e. these sentences lack the pro-drop parameter property. On the other hand, in monolingual

wrong in Persian unmarked sentences.

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English situation, in 53 sentences, the pronoun subject is present, i.e. in the English corpus, 99% of sentences do not have the pro-drop parameter. Now, look at the lone English verbs in the Persian context. Here, 73 verbs or 81% of these items have been used in a sentence which has pro-drop parameter. Since the lone English-origin verbs in Persian context behaved like Persian verbs in monolingual Persian, we conclude that they are integrated into Persian, therefore they are borrowings. Again, this finding contradicts Mahootian's claim which states borrowing and code-switching need not be distinguished and supports the Nonce Borrowing Hypothesis which asserts that borrowing and code-switching must be distinguished.

The last case of non-equivalence sites in my corpus is shown in Table 5:

	Monolingual Persian		Lone English items in Persian contexts		Monolingual English	
	N	%	N	%	N	%
Agreement on <i>kardan</i>	98	100%	114	98%	0	0%
Agreement on verb	0	0%	2	2%	56	100%
Total	98		116		56	

I discussed earlier that in Persian, there is a very productive way of making compound verbs using a stem, which can be a noun or an infinitive, plus the inflected form of the dummy verb *kardan* "do" or "make". This process establishes a non-equivalence site for Persian and English, because in English, contrary to Persian, the agreement is exclusively reflected on the verb. So, this conflict site is another

diagnostic in our research which helps us to determine the language membership of the lone English-origin verbs in Persian context. If the lone English-origin verbs are code-switches, we expect them to pattern like their counterparts in their language of origin, i.e. the agreement should be reflected on them. If they are borrowings, they should show patterns similar to their counterparts in the language into which they are incorporated, that is the lone English-origin verbs will be used in a sentence where the agreement is reflected on the verb *kardan*. Now, we look at our results in Table 5. Here, in monolingual Persian situation, 100% of verb agreement is on *kardan*. In monolingual English situation, 100% of verb agreement is on the verb. As Table 5 illustrates, 98% of lone English verbs used in otherwise Persian context obey the structure of monolingual Persian situation, i.e. the agreement is reflected on *kardan* not on the lone English item. Since the lone English-origin verbs in Persian context behaved overwhelmingly like Persian verbs in monolingual Persian, we conclude that they are integrated into Persian, therefore they are borrowings. This contradicts Mahootian's claim which states borrowing and code-switching need not be distinguished and supports the Nonce Borrowing Hypothesis which asserts borrowing and code-switching must be distinguished.

To conclude, we observed that the lone English adjectives and verbs in otherwise Persian context act as Persian lexical items, i.e. they have been integrated into Persian. This observation leads us to the conclusion that these lone items are instances of borrowings not code-switching.

4.3. Summary

The preceding section was an effort to determine the status of apparently ambiguous lone English-origin verbs and adjectives in otherwise Persian discourse. To do so, I analyzed their distribution and conditioning and compared them to those of their counterparts in monolingual Persian and monolingual English. The results from our diagnostics, i.e. the behaviour of predicative adjectives, attributive adjectives, word order, pro-drop parameter and verb agreement, taken together all showed remarkable

similarities between the treatment of monolingual Persian adjectives and verbs and unattested lone English-origin adjectives and verbs. This study shows that lone lexical items of English-origin incorporated into Persian, whether verbs or adjectives, behave like their counterparts in monolingual (unmixed) Persian, while simultaneously differing from those in monolingual (unmixed) English. These lone English-origin items must, therefore, be classed as borrowings rather than code-switching. This conclusion contradicts Mahootian's claim which asserts borrowing and code-switching need not be distinguished and supports the Nonce Borrowing Hypothesis which asserts that borrowing and code-switching must be distinguished. Also, this study confirms the findings of Ghafar Samar & Meechan (1997) regarding the status of the lone English-origin nouns in Persian context. Both Ghafar Samar & Meechan's study and my own study support that the Nonce Borrowing Hypothesis nicely accounts for the findings of our studies and contradict Mahootian's claim which states that borrowing and code-switching need not be distinguished.

5. Summary and Conclusion

In this paper, after reviewing code-switching and borrowing, I discussed the critical distinction between borrowing and code-switching and argued in support of this distinction in the analysis of any bilingual discourse. The analysis of Mahootian's NTCS was a determining fragment of my research, due to the fact that, as far as I know, is the only account of Persian in the literature, and she claims her theory replaces all other constraints and hypotheses proposed and elaborated in the last 20 years. Then I reported my own experiment on the behaviour of English-origin adjectives and verbs in Persian discourse. The variationist method revealed that lone English-origin adjectives and verbs in otherwise Persian discourse pattern like monolingual Persian adjectives and verbs. Considering the distinction I have made between them, we are now in a position to conclude that the lone English-origin adjectives and verbs are borrowings into Persian. This finding supports the Nonce

Borrowing Hypothesis proposed in Sankoff, Poplack & Vanniarajan (1990). I showed that because of underlying inadequacies, her Null Theory of Code-switching, adds nothing to the understanding of bilingual phenomena and does not have the capabilities to be considered as an alternative for other theories.

From the survey of previous works, the analysis of NTCS, and my own experiment, I propose, as far as my Persian-English corpus and Mahootian's Persian-English corpus show, that all of these bilingual phenomena can be explained through "The Fateful Triangle". This is equivalent to the Equivalence Constraint, the Free Morpheme Constraint and the Nonce Borrowing Hypothesis.

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