Bilingual code-switching and internal competence : the evidence from Spanish and English *

The phenomenon of bilingualism has long proved a fascinating topic for discussion and investigation, in a far-ranging variety of disciplines. Speakers who possess a balanced bilingual competence (as opposed to those who have merely acquired a working knowledge of a second language) appear to exhibit speech patterns that are both quantitatively and qualitatively different from either monolingual speakers or those with a decided dominant language. Considerable research energy has been expended to characterize the overall communicative skills available to the bilingual, and the results, while presenting an increasingly accurate picture, still leave several major gaps. Many fundamental issues still remain either partially or totally unresolved, among which figure the questions of the precise means in which two languages are simultaneously acquired, and the especially troublesome issue of separation between the two (or more) systems which represent the cognitive capacity of the bilingual individual.

Closely related to the latter issue, that of linguistic separation, is the peculiar behavior which has been termed code-switching, that is, the rapid and oftentimes spontaneous alternation between the two languages within the same context of discourse. Such alternations range from the least striking cases, where entire segments of discourse are presented in a single language, as the context dictates, to the most unusual specimens, in which languages are shifted, often more than once, within the confines of a single sentence or phrase. Such behavior, being fleeting and usually spontaneous, is most difficult to study accurately, since in its most pristine state it may be apprehended only after the fact, and often passes unnoticed both by speaker and listener. One of the characteristics of a truly balanced bilingual speaker, which may be used as a rough rule of thumb for bilingualism, is the frequent inability to recall, under normal conditions of attention and perception, which language a particular utterance was pronounced in, and the failure to notice many instances of code-switching within a short context of discourse.

Right from the outset, the term code-switching itself needs a bit of clarification, due to the inherent ambiguity in the use of the word *code*. As currently employed in the linguistic literature, *code* may refer either to a language system as a whole, opposed to another completely different language, or it may refer to a particular style or dialect of a language. Thus, for example, the use of different varieties of Norwegian in Norway or the alternation among varying styles of Black English has often been termed code switching. Others have tried to effect a distinction in terminology by considering such instances to be shift of *register,* and limiting the term «code-switching» to the actual shift of distinct languages. This brings forth the concomitant problem of the definition of a language as opposed to dialect; for instance, are Nynossk and Bokmal languages or dialects ? What about Piemontese and Tuscan, or Spanish and Valenciano ? For the purposes of the present discussion, code-switching will refer only to the use of two or more distinct languages, and since the entites will be English, Spanish and French above all, the vexing questions of definition will be temporarily avoided. It must be kept in mind, however, that many investigators are far from convinced that there exists a principled qualitative difference between languages and what may be termed dialects or registers.

Perhaps the reason why code-switching has proved such a popular topic for discussion is that its manifestations run counter to most commonly espoused metalinguistic tenets in the current linguistic scene, and offer distinct characterizations of linguistic behavior. Current linguistic theories based on the concept of a formal grammar, a

neat, precisely articulated generative mechanism which, even in the most untutored speakers endlessly produces relatively error-free tokens of highly complex and multilayered constructions which characterize human language. Recent work in linguistics and psychology has been directed toward the further elaboration of models of linguistic behavior, and the competence-performance dichotomy has been called into action to account for those cases where the superficial form of utterances is not quite so precise and tidy as would be predicted from the formal structures of the posited deep-structure mechanism. Nonetheless, such discrepancies appear in the majority of instances to be relatively minor and are largely drawn under the rubric of hesitation errors, memory lapses, including anomia, stammering, blending of divergent forms, or switching ideas in the middle of the production of a sentence. In each it is possible to clearly delineate those instances where the surface forms have strayed from the postulated underlying representations, and thus the appearance of code-switching among bilingual speakers, however, the neatness of such models suffers a bit of a setback, since the theory is confronted with a situation in which normal adult speakers commit grammatical violations of the sort that appear to be nonpermissable according to the basic tenets of the theory. Even educated speakers will on occasion engage in code-switching, in a naive and unreflecting fashion, and this despite the fact that most grammatical models predict that such behavior should be kept to a minimum, if permitted at all, since the two linguistic systems whould be intrinsically apparate in their formal representations. Yet the facts remain, and no amount of technical legerdemain can disperse the observations of code-switching behavior. Linguists, psychologists, anthropologists, professional educators, and others have adopted several different approaches to the resolution of the dilemma.

The matter is not just of concern to psycholinguists, but must ultimately become a social concern as well, particularly in those areas where the linguistic distribution of ethnic groups warrants the implementation of bilingual education programs. Claims regarding the scholastic abilities and verbal skill of bilingual speakers are all too frequently distorted into claims about the actual cognitive abilities of such speakers, which in turn leads to highly inaccurate and potentially destructive formulations. Thus, before proceding to some specific observations, it is necessary to briefly review the antecedent material, to establish the basic methodological guidelines which must circumscribe any investigation into the linguistic aspects of code-switching.

It is only comparatively recently that the speech of bilinguals has fallen within the grasp of psycholinguistics, at least in a fashion consistent with the formulation of acceptable theoretical models. While a number of approaches have been employed, all prevailing theories of bilingual behavior are grouped around two polar concepts. The first sees the internal linguistic competence of the bilingual as a composite of the two languages presumed to exist in the speaker's internal competence, somehow melded into a single superstructure embracing both languages and, as often as not creating problems of data retrieval and accurate language tagging and resulting in the commonly observed instances of interlingual interference (cf. Rayfield 1970). The opposing point of view maintains that bilingual speakers have command over two totally separate grammars, separate not only in function, but, in the opinion of at least some investigators, even in neurophysiological localization. Proponents of this latter viewpoint insist that the internal linguistic mechanisms of bilinguals are to an overwhelming degree divided into compartments representing the individual languages, and that observed instances of interference are either a much more superficial performance phenonemon or the result of a fossilization of forms heard elsewhere (cf. Keller 1976, Gumperzand Hernandez-Chavez 1975, Macnamara 1967, Redlinger 1976). The implication of the two theories of bilingualism for educational programs is obvious, particularly in the case of the first model, which asserts that bilingualism by definition entails the inability to separate two normally distinct linguistic systems. A strict interpretation of this position often leads to the erroneous conclusion that fostering early bilingualism in cases where such manipulation is practically feasible, is in fact undesirable, since it weakens the bonds of the first language while adding an equally tenuously maintained second language. Those holding the second view

counter that the development of true bilingual competence in fact strengthens other cognitive abilities, and potentially makes the individual into a more creative person, with superior rational abilities (cf. Peal and Lambert, 1965). Each side offers empirical data to support its position and yet the conflict remains.

Studies claiming that bilinguals possess no clear boundaries between the two languages at their command are most generally based on an examination of phenomena such as code switching and obvious instances of syntactic and phonological interference between languages. Indeed, it often appears difficult to avoid the conclusion that many bilinguals possess a competence which, while perhaps not a complete amalgam of two languages, has certainly allowed for a considerable amount of fluid blending. Such views must be approached cautiously, however, for in many instances the actual determination of valid cases of interference is much more difficult a task than commonly supposed. For example, the mere insertion of a word of L_1 in the midst of a discourse couched in L_2 is not necessarily to be construed as a case of interference : the speaker may not know the equivalent word in L_2, he may be using an L_1 word for a particular affective purpose, the L_1 word may, by virtue of its greater semantic precision, more adequately suited to the overall communicative needs of the verbal interchange, etc. The situation becomes even more complex when dealing with claims of morphological or syntactic interference, for two partially interrelated reasons. The first is that claims that the syntax of say, an L_1 expression has been influenced by a corresponding L_2 expression are in many cases difficult, if not impossible, to support exclusively against such possible alternatives as spontaneous intra-linguistic formation and/or forms transferred from other dialects or time periods. The second difficulty is that the mere observation of a putative case of interference in the speech of a bilingual is not sufficient to justify the claim that his particular grammatical competence has been deformed by the contact of two languages; his speech may be a solidified reflection of forms heard elswhere in the community which, while perhaps having origin in some form of interlingual interference, are now clearly regarded as belonging to one language or the other. A few brief examples should suffice to clarify this point.

In those constructions where English uses a combination of demonstrative plus relative pronoun, such as *those who, those that,* Spanish ordinarily employs the definite article plus relative word : *los que,* etc. However, in the speech of Puerto Rican speakers, for example, it is possible to note the use of the corresponding demonstratives, as in English : *aquellos que* (cf. Pérez Sala, 1975). The claims has thus been made that this is a syntactic transference from English. Such might indeed be the case, but such a hasty claim fails to consider that the Romance definite articles, coming originally from Latin demonstratives, still maintain a slight demonstrative force in the modern languages, and in earlier stages were much more clearly demonstrative in nature. Moreover, both French and Italian, languages which exercised a strong influence on Spanish, employ the demonstrative articles in corresponding expressions : *ceux qui, celui qui,* etc. Furthermore, in earlier periods of Spanish, the use of the demonstrative in such expressions as widespread, and even today it may be found in dialects far removed from the United States. Thus the question of usage, far from being an unquestionable Anglicism, appears to be a carryover of an archaic form, which has enjoyed great popularity and prestige in earlier stages of the language.

Another example is the use of *pasado año* instead of *año pasado* «last year», apparently following the adjective plus noun pattern of English rather than the more typical noun plus adjective pattern of Spanish. Although English syntactic influence is claimed here, an observent Devil's advocate might discover other possible sources for such usage. Spanish contains a handful of adjectives which change meaning depending upon their position before or after the noun. Although *pasado* is not normally a member of this group, similar adjectives such as *antiguo* («former/antique») and *viejo* («of long standing/aged») do behave in this fashion, thus opening the door for a semantic link that would additionally involve the related adjective *pasado*. Moreover, Spanish does utilize the expression *pasado mañana* «the day after tomorrow», thus further strengthening the potential for a spontaneous syntactic innovation. Finally,

in Spain, the use of *pasado* in the above constructions is quite commonplace, and in this case one cannot as readily invoke the influence of English. In many instances, it is impossible to totally rule out the possible influence of English syntax, especially if the concept of influence is extended to include an additional pressure on an already existent drive, rather than a simple origin. However, it should be apparent that the methodologically typical procedure of side-by-side comparisons is often unsatisfactory fot the determination of true cases of interference (cf. Lipski 1976).

Even though clear cases of interlinguistic interference may be isolated in a particular speech community, it is not always possible to determine, in a single idiolect whether the forms are the result of spontaneous interaction or whether they constitute a learned response to items heard elsewhere. Noteworthy cases are found among, for example, dialects of Chicano Spanish, where many speakers use words lide *greve* «gravy» without being able to speak or understand English at all. Pressing the point even further, if a visitor from medieval France was to listen to contemporary English, he might be shocked by the quantity of Gallicisms with which the language has become impregnated; contemporary speakers, however, are largely unaware of the origins of the words they use and the majority would not want to be accused of exhibiting interference from French : In another case study, an investigator observing the bilingual language ontogeny of her daughter was disturbed to find the child suddenly articulating a few items in «Spanglish», namely the use of he English genitive inflection *'s* in Spanish. Both parents had taken care never to mix languages in front of their child and were perplexed at the origin of the form which was the only evidence of language mixing. Further investigation revealed that the child had learned this usage from an adult baby-sitter, who in turn used it in humorous imitation of other children she had observed elsewhere.

The two factors mentioned above combine to render extremely difficult an accurate assessment of the true measure of language mixing in bilingual speakers. Such technical difficulties notwithstanding, many researchers have proceeded in blissful ignorance of the high degree of indeterminacy of their work, occasioned by the lack of substantiation of cases of true interference. It is quite difficult, if not impossible, to pinpoint the amount of language interference in any one speaker, and even if true examples of interference may be forwarded, it is not necessarily true that these examples constitute evidence that bilingualism is resulting in the erosion of the linguistic systems. Only if the speech of bilinguals is compared with the matrix speech of the linguistic community in which they reside, as well as with whatever societal norms are considered valid by the investigator, will it be possible to make an accurate assessment of the degree of mixing. It will most probably turn out, in the majority of cases, that such mixing is at best highly idiosyncratic and variable from speaker to speaker, and also within the same idiolect during different communicative situations. Therefore, charges that bilingualism hampers language differentiation must be tempered with caution.

More circuitous routes are normally employed in claims that bilingualism does not entail language mixing. Such routes of approach often involve the development of such structures as the passive voice and grammatical concord (cf. Keller 1976). In most cases development has proceeded along parallel but separate paths that suggested the two systems were being maintained apart to a large degree. Further support for this notion comes from such studies as the pioneering work of Leopold, where children are seen developing independent cognitive systems for each language. Only in those cases where the parents themselves mix languages indiscriminately in front of the children is it possible to posit a higher degree of cognitive blending, and even then this does not always follow from the linguistic behavior of the parents.

Since anyone who knows at least two languages, whether or not he be considered truly bilingual, may at times exhibit cases of inter-linguistic interference, it is clear that the opposing views of bilingual competence are not mutually exclusive, nor may they be completely generalized. Rather, it appears that every bilingual speaker, to a greater or lesser extent depending upon apparently idiosyncratic factors, as well as perhaps more systematizable parameters, does possess a sort of composite grammar, a system mediating between the two stored

languages, allowing for multiple coding in more than one system, and consequently, occasionally allowing for a certain amount of leakage or interference from one system to the other. Psycholinguistic investigation of true bilinguals has revealed little or no difference in response time for identifying words on a list, even if the stimulus is presented in the other language (Kolers 1966), thus suggesting a highly dynamic mechanism of interconnection between the two languages. The exact nature of this mechanism of interconnection is not known at present, and yet a more accurate determination of its nature and function will be necessary before a full-scale model of bilingual competence may be attempted.

The preceding remarks relate to the problem of bilingual code switching in a very specific fashion, since, as noted earlier, code switching in bilingual speakers has often been used as evidence that bilinguals do not possess separate grammars, but rather a single mixed or undifferentiated grammar. While little experimental work has been done to verify such hypotheses, a number of interesting proposals have come from divergent sources. For example, from the study of language learning, a slightly different view of the development of bilingualism, has come the notion of «interlanguage». Selinker (1972:214) defines interlanguage as «the existence of a separate linguistic system based on the observable output which results from a learner's attempted production of a TL (target language) system». Some of Selinker's type-forms of interlingual interference are based exclusively on second-language learning situations, such as the effects of specific training methods, and cannot as such be adapted to a model of bilingual speakers who have learned both languages at essentially the same time, without formal training. On the other hand, the majority of conclusions reached about the interlanguage of second-language learners seems particularly applicable to the study of more general bilingual behavior. For example Selinker (228) feels that «the relevant units of interlingual identification do not come from anywhere : they are latent in the brain in a latent psychological structure, available to an individual whenever he wishes to attempt to produce the norm of any TL», and further notes that there is no genetic timetable for the development of such latent cognitive

structures. Selinker is thus suggesting that every individual even those who are totally monolingual, has the innate ability to form an interlanguage system, necessitating only the addition of a second language under the proper circumstances. This is perhaps a significant hypothesis, as far as it goes, and must be further refined in the search for an insight into bilingual competence.

While far-reaching in its implications, or potential implications, Selinker's view of dual language cognitive structures says nothing in particular about the possibility for code-switching, only for the interference or encroachment of one language into another. Kolers (1966) attempted to relate cognitive models of bilingual behavior with the problems of code-switching. Subjects were presented with reading passages, in English, in French, and alternating line-by-line English and French. They were also given passages in an artificially generated «code-switched» format, where English and French collided with each other in apparently haphazard fashion throughout the entire passage, English being favored in one (in terms of syntax), and French in the other. Predictably, reading time increased from the monolingual passages through the alternate-line passages to the switched passages, which took the longest to read. No significant difference was found between native speakers of English and French, again confirming earlier views about the nature of balanced bilingual competence. Next, there came an attempt to make the subjects deliberately generate specimens of code-switching, by instructing them to make a precis of each passage they had read, interspersing English and French as often as possible, with no further instructions as to how this was to be done. The linguistic characteristics of the switched speech were then tabulated, as well as the errors committed, in an attempt to discover whether any recurring patterns could be isolated.

Such a methodology is quite obviously subject to much controversy. In the first place, the pristine performance of the native speaker is totally destroyed by the instruction to code-switch deliberately. The speakers, who in normal conversation may never have engaged in such a practice, were probably extremely self-conscious and unsure of how to proceed. I myself have made the same request of numerous bilingual speakers, including some who

have been observed to code-switch in spontaneous conversation, and the results have been uniformaly negative. The most common reaction is total silence, the inability to formulate an acceptable thought pattern consonant with the request to code-switch. In those cases where the request was complied with, the results were absurd and ludicrous, indicating the lack of confidence which the subjects felt during the performance. Kolers, however, by whatever means, was able to arrive at a more useful set of data, which was then subjected to further analysis. He found, again not surprisingly, that communication time increased when subjects were asked to code switch, taking this as evidence that code-switching naturally entails greater production time, but this conclusion is belied by observations of spontaneous code-switching in bilingual speech, where switches normally occur without he slightest hesitation. The significantly greater production time in Kolers' data was more likely the result of the difficult situation in which his subjects found themselves.

Of greater general interest to the subject of bilingual competence are the data relating to errors made during the forced code-switching, or during the reading of the switched passages. Aside from errors of pronunciation, the subjects made errors, in descending order, of word-choice, redundancy, omission and tense-agreement. Although no special attention was paid to gramatical environments, it was noted that prepositional phrases were rarely split between the two languages, although in a three-word phrase containing an article a few examples such as EFF were found, and also one or two occurrences of EEF and FFE; it was noted that if a switch was to occur in the middle of a prepositional phrase it would most likely occur between the preposition and the article, with the noun and article being more firmly welded together.

In analyzing reader errors, it was found that errors were committed, in descending order, involving : articles, nouns and prepositions, pronouns, conjunctions, verbs, adjectives and adverbs. Of the errors, about three fourths were of an inertial nature, the result of «dragging» the language of the preceding discourse into a sentence which in reality had been switched to another language. Of the remaining errors about fifteen percent were anticipatory.

Errors in prepositional phrases accounted for about 70 % of the total number of reading errors. The greatest number of switches were unilingual, that is EEE became FFF or vice versa. If the reading passage contained phrases of the form FEE or EFF, the article was normally translated to match the preposition, giving FFE and EEF. If the correct passage contained phrases of the form FFE or EEF, then the noun was translated to produce monolingual passages. The actual mixed text contained about 30 errors of word order; when these errors were unconsciously modified during reading, about 20 % were corrected, while (371) «among the structurally ambiguous phrases in which errors were made, phonological and semantic sense often were subordinated to syntactic requirements». Although Kolers was able to notice some general tendencies in code-switching, his conclusion was that there are no units larger than the individual word whose boundaries are not permeable during code-switching. Even a few individual words succombed to errors, although the word boundary normally acted as an effective barrier against such interpenetration. From these observations, Kolers was led to suspect that he might have been describing over-learned motor-sequences rather than observing windows into the cognitive structures of the bilingual speaker, especially in dealing with the highly stereotyped patterns exhibited by the nouns and prepositional phrases.

While offering interesting and suggestive ideas about the grammatical constraints if any governing bilingual code-switching, the data discussed above are not sufficiently free from methodological controversy to serve as the basis for detailed conclusions, since the evidence was not gathered from truly spontaneous conversation.In other studies were bilingual speech was observed in less contrived situations, investigators often report the same general conclusions, that there are no strict formal rules governing the grammatical prerequisites for code switching, except perhaps in a few highly unlikely negative cases. After reviewing some of his data, Lance (1976:144) concludes that «the reason for switching from one language to the other is apparently not motivated by gaps in the vocabulary of the speaker. Sufficient

evidence was found to indicate that the speaker knew the appropriate words in both languages and simply produced the one that was closest to the tip of his tongue. On a number of occasions they produced both expressions within the same or subsequent utterances-perhaps suggestive of stylistic implications». These data appear to debunk one popular conception of the reasons for code-switching, namely the lack of available lexical items in a particular language. Gumperz and Hernández-Chavez (1976:157) also review some tentative environments for code switching, but caution that «this does not mean... that there are no linguistic constraints on the co-occurrence of Spanish and English forms».

While declining, in the face of insufficient evidence, to provide further details, the authors note that whole sentences are most easily transferred, followed by sentence modifiers or phrases. Certain apparently impossible phrases are noted, generally involving a putative switch in the midst of a syntactically and semantically very close-knit phrase. Timm (1976) also carried out a comparatively detailed investigation into Spanish-English code-switching, with the explicit goal of determining linguistic environments; she speculates that the restrictions she has uncovered may point to the centrality of the verb in overall linguistic structures, since the majority of the code-switching barriers involve verbs. It is also noted that the very existence of such barriers indicates that Spanish and English in such bilingual situations are not undergoing a pidginization process, since many areas of the language are steadfastly resisting incorporation into the realm of possible code-switches.

So far, the only constraints which have stood up to the repeated scrutiny of several investigations have involved rather rudimentary statements, such as the unlikeliness of switching between an article and a noun, a preposition and its object, etc. It is perhaps significant that, in the evolution of the Romance languages from Latin, there has frequently been interchange between synthetic single-word forms and analytic multi-word forms, with precisely the same semantic values; this alternation has evolved such categories as the future, conditional, present and pluperfect forms, as well as various subjunctive forms, and also the values of certain prepositions. Prepositional phrases,

too, appear to be in many instances regarded as atomic entities, and are used as such in the function of adjectives, adverbs and sometimes even nouns; this might help explain the extreme reluctance with code-switching occurs within the boundaries of a prepositional phrase. The splitting of articles from nouns, except in cases of borrowed forms, appears also to violate a fundamental principle of linguistic structure, especially in Spanish. While the English article merely identifies the noun and supplies a varying degree of definition, depending upon whether the definite or indefinite article is used, the Spanish article adds the further information of gender and number. In most cases, the Spanish articles are redundant check-morphemes, which serve to enhance the grammatical information already present in the morphological make-up of the noun, although in certain cases gender and/or number cannot be predicted from the superficial form of nouns and accompanying adjectives. The fact that as many as three morphemes may unite the noun with the article in Spanish may well account for the extremely tight bond which normally exists between article and noun, a bond which usually resists attempts at code-switching. In similar fashion, the bond between subject pronoun and conjugated verb is a natural one, especially in English, where the subject position, due to the slight degree of differentiation among verbal forms, may never remain empty. In English, either a pronoun or a noun must occur in subject position, while in Spanish the subject position may, and in the case of non-human nouns must, remain empty of a pronominal subject. Therefore, at least in English, each finite verb is automatically regarded as connected with a corresponding subject pronoun, in the absence of a noun; it may be this fundamental difference in the obligatory versus optional status of the subject pronoun between Spanish and English that accounts for the reluctance to code-switch between subject pronoun and finite verb, or this restriction may simply be a factor of the indissoluble bond in English, which does, in fact, exist in Spanish as well, at deeper levels of structure, since every finite verb must have a subject at some point in the derivation.

The reluctance to switch codes in infinitival constructions also may be a function of differing morphological systems; the

Spanish infinitive is clearly marked with the final *r,* while in English, the preposition/particle *to,* used before the dictionary-form of the verb, is considered to be the «sign of the infinitive». Thus, the English substantival infinitive is an analytic construction whereas the Spanish infinitive is a synthetic form; mediation between these two paradigms is particularly difficult, all the more so since in English the sign of the infinitive precedes the stem form while in Spanish the infinitival morpheme comes at the end of the stem. It is therefore not surprising that little if any code switching occurs in infinitival constructions, except where the entire verb has been borrowed from one language to the other. It is interesting to note that when English borrows a Spanish verb, normally the entire infinitive is taken, to which is prefixed the particle *to;* Spanish, on the other hand, normally takes the English dictionary form and suffixes either *-ar* or *-ear.*

The failure to arrive at a set of rules or guidelines for code switching has prompted many observers to claim that bilingual speech is deformed and distorted, and should be discouraged. However, in all of the investigations carried out to date, the search for linguistic environments to dictate code switching has taken place solely in a unilingual setting; that is, one looks for features in the preceding (or occasionally, following) linguistic context, in most cases material from a single language, to predict the occurrence or non-occurrence of a switch. Alternatively, it is possible to speak in terms of abstract grammatical categories, such as noun phrases, prepositional phrases, etc. in assessing cases of code-switching, which automatically places the analysis at some level of deep structure, at which both languages share a common structure. Timm (1975:477, fn. 22) states that «whatever syntactic and/or semantic relationships might exist in the deep structure (if there is one) of bilingual talk, the «rules» for switching code seem most easily statable in terms of the obvious sequential surface relationships of syntactic units». However, the majority of investigations have not gone beyond the boundaries of the individual language, although in many cases a purely surface-structure analysis has been performed. This presumably stems from the failure to distinguish between two distinct linguistic

systems, as present, for example, in a bilingual dictionary and the systems as present in the cognitive structures of balanced bilingual speakers. It is quite unlikely that the two languages are stored in a person's competence in the tabular form found in dictionaries or word lists; the very phenomenon of code switching and interlingual interference seems to imply at least a certain amount of interconnection. Therefore, if one departs from the hypothesis that bilingual competence is in fact a form of interlanguage, in the sense of Selinker, it then becomes feasible to scrutinize instances of code switching not only as regards unilingual environments, but also as forming part of a truly bilingual, or perhaps interlingual, set of surface structures.

The ways in which two separate languages can mix to form an interlinguistic system are virtually infinite, and hence the possibility for discovering a principed interaction between the two languages in the speech patterns of bilingual speakers is equally difficult. Nonetheless, as more and more evidence is being collected, one general area seems to be suggesting itself. It appears that, whatever the sufficient conditions for code switching may turn out to be, the necessary conditions include a surcertain homology between the superficial syntactic from of the utterances in the two languages. Put in other words, this means that the overall superficial form of a given utterance must be essentially the same in each of the two languages possessed by the bilingual speaker, with respect to the general arrangement of constituents and the deployment of the bonds of semantic coherence in order to switch from one language to the other in the midst of a production of discourse. In its strongest form, the hypothesis would state that syntactic identity is required between the sentences in the two languages, a claim that is easily refuted by code-switches in which minor syntactic deviations may be found. In another study, I have offered a detailed analysis of some examples of Spanish-English code-switching with respect to syntactic congruence, and will not repeat the substance of the discussion here. Suffice it to say, that even if one manages to overcome the barriers impeding a definitive characterization of «syntactic congruity», the requirement that equivalent sentences

in the two languages must be syntactically identical is far too strong in most circumstances. However, it is significant to note that, in those sentences with essentially identical superficial syntactic structures in the two languages, it is usually possible to find code-switches at virtually any point in the production of the sentence, with only a minimum of restriction, such as the atomic bonds mentioned earlier, thus adding a first bit of support to the hypothesis of syntactic congruence.

In cases where less than total syntactic congruence exists between equivalent sentences in two languages, it is still possible for code-switches to occur. In these cases, however, it appears to be that, while a certain amount of syntactic disparity may be tolerated *before* the switch, *after* the switch all superficial elements of the two phrases must be to all intents and purposes identical. The data which have been examined to date strongly support this hypothesis, and on-going research projects with Spanish-English bilingual speakers yielding more evidence to be examined. Stated in other words, the primary syntactic constraint would appear to involve a simultaneous side-by-side comparison, as it were, of two potential sentences, one in each of the two languages. While the actual utterance that emerges is couched partially in terms of each of the languages, it is necessary that the sentence be potentially finished in the language in which it was begun in order to determine the bounds of syntactic propriety.

Within a given linguistic community, there are no single set of norms that determine how often, within a single sentence, languages may be shifted, nor how many words or syllables must intervene between switches. In general, more than one word normally occurs between switches, thus rendering less than totally acceptable combinations such as ESE or SES in prepositional or nominal phrases, for example. Beyond such trivial generalizations, it becomes quite impossible to offer more precise observations. Even careful scrutiny of the speech patterns of a single speaker usually reveals no consistent behavior in terms of code-switching, although the most common tendency is for the sentence to begin in one language and, if it is reasonably short, to switch only once and end in the other language. In longer phrases, two or more switches may occur, but given the preponderance of short sentences in spontaneous colloquial speech, they are not as commonly observed.

Of interest to the psycholinguistic problems underlying the specification of bilingual competence is the type of general syntactic constraint that appears to govern the global possibilities for code-switching. Immediately preceding a switch it would seem that there occurs a brief moment of anticipation, in which, at some subliminal level, the basis syntactic structures of the remaining portions of the sentence in the two languages in the speaker's mind are compared and tested for congruence. The motivation behind such a comparison would be the achievement of a unified superficial syntactic pattern, regardless of the linguistic code in which the individual elements are represented. Therefore, code-switches which would in effect combine incompatible syntactic structures are normally avoided, and when presented to native speakers in experimental situations, are routinely rejected, although not always for explicitly statable reasons. Occasionally, one may observe switches in which the post-switch portions of the sentence are not totally syntactically congruent. It is still too early to offer any speculation on the exact amount of congruence necessary to effect a switch, this again may be an idiosyncratic variable. It is even possible that the mechanism of anticipation, if if exists, does not proceed as a full-fledged syntactic analysis mechanism, but rather as some sort of pre-linguistic strategy, one which «chucks» the comparative phrases for an overall measure of syntactic congruence but which is not fine enough to discriminate against all cases of syntactic deviance. Those bilingual speakers capable of engaging in spontaneous code-switching apparently possess the ability to mentally compare equivalent sentences in the two languages. Macnamara (1967:71) has speculated that «a language system can be made ready for a response even before the response has been determined... the most likely explanation (for code switching) is that the bilingual has the capacity to activate the L_2 system, carry out the semantic encoding, the selection of words and the syntactic organization while more or less mechanically producing in L_1 material which has already been prepared for production». This view is not explicitly contradicted by the observations made

above, nor by the research paradigms upon which they were based; nonetheless, the view of code-switching as a combination of an active processing mechanism for sentence generation and the automatic and automatistic playback of a previously generated phrase does not really account for the extraodinarily high degree of syntactic conformity found between the L_1 and L_2 sentences in phrases following a code-switch. On certain levels, it appears that bilingual speakers manipulate two independent linguistic systems, and Macnamara's description will cover these cases adequately, when sentence boundaries are crossed. This is to say, when one sentence is in, say, L_1 and the next one is in L_2, the model offers a plausible explanation, at least plausible enough to be included in future research paradigms. However, in cases of intrasentential code-switching, it is not possible to speak of generating one sentence while mechanically producing another, since at no point is a complete unilingual sentence produced. One is rather faced with a typical black-box problem, in which the black box in question appears to contain some sort of internal comparison mechanism, perhaps realized only on a very superficial level of linguistic structure, of two utterances, produced either simultaneously or in very rapid sequence. One utterance is in L_1 and the other in L_2. In view of the much higher than chance degree of syntactic compatibility which is manifest in cases of code-switching, one must propose a model which implements a simultaneous comparison of two variant sentences, rather than a simple linearly ordered production model. This in turn leads to

even more interesting psycholinguistic implications. If there is indeed a simultaneous comparison mechanism, then bilingual competence must be of a more integral nature than would be supposed by a model positing two separate grammars. There is an additional stage, a comparator which serves to juxtapose two differing systems for simultaneous comparisons, and which, far from being a passive after-effect mechanism, allows for dynamic changes in the middle of production, in effect, the code-switches. It is this additional mechanism which has not figured, in explicit form, in most psycholinguistic studies of bilingualism. If valid, the discovery and exploration of such an interlingual comparison system will offer new possibilities for the linguistic description of bilingualism, as well as for language processing in general. Before any conclusions may be forwarded, however tentatively, the preceding remarks must be greatly refined and extended; in addition, it is imperative that comparative data from bilingual speech involving languages syntactically more dissimilar than English and Spanish (preferably from distinct language families) in order to determine the precise extent to which syntactic compatibility may be claimed as a factor in regulating such interlingual interchanges. For this, the combined efforts of the entire linguistic community will be needed, for the time has come when the study of bilingualism may no longer be regarded as the privileged and restricted domain of a small group of specialists.

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