A definition of bilingualism can include speakers of different languages as well as those who speak several dialects or several sub-varieties of dialects in the same language. Most speakers are able to practice code-switching, whether it is from language to language or dialect to dialect, and the processes involved in such a capability may be the same in both cases. Children learning two languages simultaneously demonstrate processes at work in code-switching and language development. A speaker may have a common core of rules for his codes; the rules specific to a particular code are tagged as such through a process of differentiation. Such a system is evident in the learning processes of young children developing the command of yes/no questions in both English and French. (VM)
BILINGUALISM, MONOLINGUALISM, AND CODE ACQUISITION

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On a snowy night in Old Québec a couple of years ago, a number of friends gathered for coffee and conversation. Two of them happened to be writing books. One, fluently bilingual, complained, "It is really terrible. I search my mind for a good synonym, and when one pops up, it's just as likely to be in the wrong language. A damn nuisance!" His monolingual friend replied, "I know just what you mean. My book's supposed to be for the layman, and the technical jargon keeps trying to force its way in."

Two similar experiences? But one man spoke two languages, alternately and effectively, and the other spoke one. Yet, their comments suggest that processes of storage and retrieval of lexical material may be alike for monolinguals and bilinguals. Other stories could be cited at length to illustrate a common core of cognitive-linguistic experience. The point I wish to make is that bilingualism and monolingualism are not unrelated entities, each demanding a separate explanation, but are realizations of a single phenomenon.

1The author wishes to express her thanks to Dr. H. S. Swain and Dr. John Macnamara who read and commented on an earlier draft of this paper.
in which varying aspects are observable in different degrees. As such, they should be incorporated into a unitary theoretical framework.

Portents and Precedents

Weinreich (1953, p.1-2) commented on the artificiality of the distinction between bilingualism and monolingualism in his study of the interference mechanisms resulting from language contact within a single individual. In this context, he noted that

....it is immaterial whether the two systems are 'languages', 'dialects of the same languages', or 'varieties of the same dialect', ...the mechanisms of interference would appear to be the same whether the contact is between Chinese and French or between two sub-varieties of English used by neighbouring families. And while control of two such similar systems is not ordinarily called bilingualism, the term in its technical sense might easily be extended to cover these cases of contact as well.

Recent work by anthropologists (e.g., Gumperz, 1964, 1967; Hymes, 1967) and sociologists (e.g., Labov, 1966) makes it clear that most members of communities control several sub-varieties of their language. According to Hymes (1967, P. 9),

No normal person, and no normal community is limited in repertoire to a single variety of code, to an unchanging monotony which would preclude the possibility of indicating respect, insolence, mock-seriousness, humor, role-distance, etc. by switching from one variety to another.
In Weinreich's "technical sense", then, all people are at least bilingual, and most are multilingual. Bilingualism in its traditional sense may thus be seen as an obvious case of a general ability to store and switch among linguistic codes.

**Coming to Terms with Terms**

Let me now try to clean up my own language. Henceforth, code will denote any linguistic system used for interpersonal communication. As such, its various levels of structure - semantic, grammatical, lexical, and phonological - interact in a rule-governed manner. Languages, dialects, and sub-varieties of dialects are thus all examples of codes. Further, a speaker's substitution of one language for another, or one dialect for another, or one subvariety of a dialect for another, are all examples of code-switching. Insofar as Hymes' premise holds, this is equivalent to saying that code-switching is a normal part of all linguistic activity.

At this point it is unclear what, or even if, new terms should be introduced. If "bilingual" and "monolingual" really symbolize some insight into the processes of linguistic functioning, then they should be retained for use in a psychological theory of code-switching. However, it is not at all clear that dis-
tinguishing the speaker who controls two languages from the speaker who controls two dialects or sub-varieties of dialects leads to psychologically meaningful insights. Regarding the "complexity of switch"\(^2\), for example, Gumperz (1967, p. 54) suggests that language-to-language switching is not necessarily more complex than subvariety-to-subvariety switching. Gumperz' observations were carried out in situations in which the language switches (Hindi to Punjabi and Kannada to Marathi) involved only the substitution of morphemes. Grammatical structures remained unchanged.

If we contrast this form of bilingual communication with the rather complex selection among phonological, syntactic and lexical variables, which Labov's recent work in New York has revealed (1966), it seems clear that there are at least some circumstances where bilingualism may require less skills than the normal process of communication in some monolingual societies.

Summarizing the argument so far, I question the utility of the bilingual/monolingual distinction in the development of a psychological theory of code-switching. If, on further investigation, these terms are shown to be arbitrary and empty of meaning, they should be discarded.

\(^2\)A hypothetical dimension. Clearly both psychological and linguistic factors would have to be considered in any measure of complexity. The extent to which it would turn out to be a single dimension is unknown.
The Acquisition of Codes

To suggest that the bilingual/monolingual distinction is an arbitrary one is to imply that learning two or more languages does not differ in any significant way from learning one language: both involve the acquisition of two or more codes. One advantage of studying the child learning two languages simultaneously is that at least some aspects of linguistic development are more easily observed. For example, studies of such children (e.g., Imedadze, 1966; Leopold, 1939-49) have revealed that they first pass through a 'mixed-speech' stage wherein sentences include elements of both languages. It would be difficult to find a better demonstration of the fact that language acquisition and sentence construction are not merely realizations of an imitative process, but of a constructive, creative one. Moreover, although this initial stage of code mixing has been identified in the case of the child learning subvarieties of a language (Weeks, 1970), instances of mixing are so clearly observable in the case of the child learning two languages, that statements about them can be made with greater confidence.

The initial mixed-code stage must necessarily be followed by a period of differentiation. In the case of a child learning several subvarieties of a language, it hardly seems plausible that entirely separate sets of
rules, one to generate each code would be developed (see Figure 1). Such an organization seems quite inefficient merely from the point of view of memory storage. More efficient would be a common core of rules with those specific to a particular code tagged as such through a process of differentiation (see Figure 2).

In Figures 1 and 2 the codes shown as output each require the operation of rules C and D. The model represented by Figure 1 demands that rules C and D be stored in three different locations. In the model represented by Figure 2, however, rules C and D each need only be stored in one location. In the first model, each rule must be marked according to its code. In the second model, only those rules specific to a particular code need to be tagged.

The separate storage model suggests that a rule in common to the codes being learned may be acquired separately for each code. Rules not in common will immediately be tagged according to their respective code. In other words, each code is learned independently of the other. The common storage model implies that a rule in common to the codes being learned will be acquired only once. Further, a rule not in common to the codes may first be considered as a rule in common, later to be tagged as appropriate to a particular code through a process of differentiation.
Figure 1
Separate Storage

Figure 2
Common Storage
The Learning of Yes/No Questions

Consider the child whose linguistic environment includes both French and English. Consider further the number of alternatives he has available just for asking a yes/no question. Suppose, for example, that he wants to ask his mother if his friend is coming over. He could say:

1. He's coming?
2. Il vient?
3. Est-ce qu'il vient?
4. Il vient tu?
5. He's coming, eh?
6. T'1 vient, eh?
7. He's coming, isn't he?
8. Is he coming?
9. Vient-il?

There are two points to note about the questions listed above. First, they represent structures that might be heard from speakers of some Canadian dialects of French and English. Therefore, the question "Il vient, n'est-ce pas?" has been omitted because although it is common in some French dialects, it is rarely used by French Canadians. Throughout the remainder of this paper, any mention of French and English refers to Canadian dialects.
Secondly, there are other ways the child could express the same question. For example, he might choose to use his friend's name. With the exception of question 9, this would not involve any structural change: the name would occur wherever the pronoun now is. Question 9, however, would become, "Jean vient-il?".

The questions listed above exemplify the various means available for signalling the asking of a yes/no question in French or English. A formal characterization of these devices can be found elsewhere (e.g., Klima and Bellugi, 1966; Langacker, 1965; Swain, in preparation). Space forbids it here. Generally speaking, however, it can be signalled by:

1. an intonation contour which rises and stays high to the end of the sentence (questions 1 and 2).
2. the morphemic sequence "est-ce-que" located at the beginning of the sentence (question 3).
3. the morpheme "tu" located after the first verbal element in the sentence (question 4).
4. the morpheme "eh" located at the end of the sentence (questions 5 and 6).
5. the complex tag (question 7).
6. a particular ordering of subject and verb constituents (questions 8 and 9).

3 Only one child in our sample, Michael, regularly heard the dialect in which tu is used as a question morpheme.

4 This is a complex structure dependent on the main part of the sentence. As no examples of complex question tags were found in our data, further mention of it is omitted.
What does the child do who is faced with the task of learning this set of alternatives? In order to answer this question, speech samples of four children who had heard English and French from birth were recorded over a period of six to eight months. At the time when data collection began, the ages of the children were two years, ten months (2.10); three years, two months (3.2); three years, eight months (3.8); and four years (4.0). Therefore, the acquisition sequence we will see is not that of one child followed over two years, but is instead a developmental sequence inferred from the combined data of four children.

A detailed statement of the results is reported elsewhere (Swain, in preparation). Here, I will only attempt to summarize the basic findings.

At the time the recording sessions began the youngest child, Monica, was already using two devices to signal yes/no questions: rising intonation and the morpheme "eh". Her questions included Café est hot?, Ça va commencer?, Tu veux la cigarette?, You go home?, and Ça va don't fall, eh?. Interestingly, these two devices are those the two languages have exactly in common.

When the recording sessions began, the second youngest child, Michael, used not only rising intonation and the morpheme "eh", but the morpheme "tu". The latter category included such questions as T'as tu
douzaine d'oeufs? and Marcel il vient tu?. At this same age (3.2), Monica began to produce questions with "est-ce que". By 3.4, "est-ce que" began many of her yes/no questions. It was not until age 3.8 that the sudden increase in the frequency of production of "est-ce que" was observed in Michael's data. At that time, "est-ce que" was added to questions containing the question morpheme "tu", as in Est-ce qu'on joue tu au magasin?; to inverted questions, as in Est-ce que veux-tu les donner à elle?; and to English questions, as in Est-ce que you give it to her?.

Between 3.3 and 3.8, Michael produced yes/no questions in which the subject followed the first verbal element. For example, he asked Do you see the glasses? and Veux-tu un bonbon?. However, this order of constituents did not occur with other forms of "do" such as "does" or "did"; with other auxiliaries such as "can", "is", etc.; or with other subjects than "you" and "tu". It is suggested that at this point in Michael's linguistic development "do" was a question morpheme, and that sequences like "veux-tu" were simply reduced versions of sequences like "tu veux tu". By 3.9, the data suggest that Michael could use order to signal yes/no questions so long as the questions were not negative. This applies also to Douglas at this age.

From 3.9 through 4.5, the verbal system was further developed and refined. Correct orderings of the verbal and subject constituents were learned.
If we look very generally at these results, the following developmental pattern emerges in the use of devices to signal yes/no questions. Intonation is the first device to be used. Second are the special-purpose morphemes, first at the end of the unit ("eh"), next, internal to the unit ("tu"), and finally at the beginning of the unit ("est-ce que"). Third is the rearrangement of constituents within the sentence. This order is in general agreement with the universal order suggested by Slobin (1970) concerning the emergence of linguistic means for expressing semantic notions. Given the thesis that the same processes are involved in the acquisition of codes, whether the codes are languages or subvarieties of a language, this is to be expected.

The results also provide some evidence in support of a common storage model. At the time data collection began, only the linguistic means for signalling yes/no questions that are exactly the same for both languages had been learned. Clearly, to know whether they were acquired separately or not, one would have to collect data from an earlier period. However, the one device whose acquisition was unmistakably observed -- "est-ce que" -- suggests that it was first considered as a rule common to both codes. Only later was it tagged as appropriate solely to French. On the other hand, rules for the rearrangement of verbal and subject constituents appeared to be acquired independently for each code.
Summary

It was suggested that in both a psychological and a linguistic sense, all individuals are at least bilingual, many multilingual. This implied that the simultaneous acquisition of codes and code-switching are universal aspects of linguistic development and behaviour. The simultaneous acquisition of a part of two codes was then examined. It was apparent that the emergence of linguistic means for signalling yes/no questions corresponded to those found in other situations.

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