

## Individual bilingualism

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Few areas of linguistics are surrounded by as many misconceptions as is bilingualism. Most people think that bilingualism is a rare phenomenon found only in such countries as Canada, Switzerland and Belgium and that bilinguals have equal speaking and writing fluency in their languages, have accentless speech and can interpret and translate without any prior training. The reality is in fact quite different: bilingualism is present in practically every country of the world, in all classes of society and in all age groups; in fact, it has been estimated that half the world's population is bilingual. As for bilinguals themselves, the majority acquired their languages at various times during their lives and are rarely equally fluent in them; many speak one of their languages less well than the other (and often with an accent) and many can only read or write one of the languages they speak. Furthermore, few bilinguals are proficient interpreters and translators.

In this entry we will describe the many facets of the bilingual individual. We will concentrate on the adult and will focus on the stable bilingual, that is the person who is no longer in the process of acquiring a second or third language. We will first describe the bilingual person in terms of language knowledge and use. We will then examine the bilingual's linguistic behavior when communicating with monolinguals and with other bilinguals. We will continue by discussing a certain number of issues in the psycholinguistics and neurolinguistics of bilingualism, and we will end with a brief overview of the attitudes, behaviors and personality of the bilingual individual.

### 1. Describing the bilingual

Although a few researchers have defined bilinguals as those who have native-like control of two or more languages, most others agree that this position is not realistic. If one were to count as bilingual only those people who pass as monolinguals in each of their languages, one would be left with no label for the vast majority of people who use two or more languages regularly but who do not have native-like fluency in each. This has led researchers to propose other definitions of bilingualism, such as: the ability to produce meaningful utterances in two (or more) languages, the command of at least one language skill (reading, writing, speaking, listening) in another language, the alternate use of several languages, etc. For our purposes, we will call bilingual those people who use two (or more) languages (or dialects) in their everyday lives. (Throughout this entry, we will subsume dialects under the term "language"). Thus, our definition includes people ranging from the migrant worker who speaks with some difficulty the host country's language (and who cannot read and write it) all the way to the professional interpreter who is totally fluent in two languages. In between we find the foreign spouse who interacts with friends in his first language, the scientist who reads and writes articles in a second language (but who rarely speaks it), the member of a linguistic minority who uses the minority language at home only and the majority language in all other domains of life, the deaf person who uses sign language with her friends but a signed form of the spoken language with a hearing person, etc. Despite the great diversity that exists between these people, all share a common feature: they lead their lives with two (or more) languages. (Bilinguals who are no longer using their different languages but who have retained knowledge of them will be termed "dormant bilinguals").

The reasons that bring languages into contact and hence foster bilingualism are many: migrations of various kinds (economic, educational, political, religious), nationalism and federalism, education and culture, trade and commerce, intermarriage, etc. These factors create various linguistic needs in people who are in contact with two or more languages and who develop competencies in their languages to the extent required by these needs. In contact situations it is rare that all facets of life require the same language (people would not be bilingual if that were so) or that they always demand two languages (language A and B at work, at home, with friends, etc.). In fact, bilinguals acquire and use their languages for different purposes, in different domains of life, with different people. It is precisely because the needs and uses of the languages are usually quite different that bilinguals rarely develop equal fluency in their languages. The level of fluency attained in a language (more precisely, in a language skill) will depend on the need for that language and will be domain specific. It is thus perfectly normal to find bilinguals who can only read and write one of their languages, who have reduced speaking fluency in a language they only use with a limited number of people, or who can only speak about a particular subject in one of their languages. This explains in part why bilinguals are usually poor interpreters and translators. Not only are specific skills required, but interpretation and translation entail that one has identical lexical knowledge in the two languages, something that most bilinguals do not have. Certain domains and topics are covered by the lexicon of one language, others by the lexicon of the other language, and some few by the two. Interpreting and translating when one lacks the appropriate vocabulary and the necessary skills is thus something that bilinguals find difficult.

The failure to understand that bilinguals normally use their languages for different purposes, with different people and in different domains of life has been a major obstacle to obtaining a clear picture of bilinguals and has had many negative consequences: bilinguals have been described and evaluated in terms of the fluency and balance they have in their two languages; language skills in bilinguals have almost always been appraised in terms of monolingual standards; research on bilingualism has in large part been conducted in terms of the bilingual's individual and separate languages; and, finally, many bilinguals evaluate their language competencies as inadequate. Some criticize their mastery of language skills, others strive their hardest to reach monolingual norms, others hide their knowledge of their "weaker" language, and most simply do not perceive themselves as being bilingual even though they use two (or more) languages in their everyday lives.

Researchers are now starting to view the bilingual not so much as the sum of two (or more) complete or incomplete monolinguals but rather as a specific and fully competent speaker-hearer who has developed a communicative competence that is equal, but different in nature, to that of the monolingual. This competence makes use of one language, of the other, or of the two together (in the form of mixed speech; see below) depending on the situation, the topic, the interlocutor, etc. This in turn has led to a re-definition of the procedure used to evaluate the bilingual's competencies. Bilinguals are now being studied in terms of their total language repertoire, and the domains of use and the functions of the bilingual's various languages are being taken into account.

We should note finally that as the environment changes and the needs for particular language skills also change, so will the bilingual's competence in his or her various language skills. New situations, new interlocutors, new language functions will involve new linguistic needs and will therefore change the language configuration of the person involved. Extreme cases of restructuring are language forgetting and a return to functional monolingualism, be it in the person's first, second or third language.

## 2. The bilingual's linguistic behavior

One of the most interesting aspects of bilingualism is the fact that two (or more) languages are in contact within the same person. This phenomenon, which has led to a vast body of research, can best be understood if one examines the bilingual's various language modes. In their everyday lives, bilinguals find themselves at various points along a situational continuum which induce different language modes. At one end of the continuum, bilinguals are in a totally monolingual mode in that they are speaking (or writing) to monolinguals of one - or the other - of the languages that they know. At the other end of the continuum, bilinguals find themselves in a bilingual language mode in that they are communicating with bilinguals who share their two languages and with whom they normally mix languages (i.e. code-switch and borrow; see below). For convenience, we will refer to the two end points of the continuum when speaking of the monolingual or bilingual language modes, but we should keep in mind that these are end points and that intermediary modes do exist. This is the case, for example, when a bilingual is speaking to another bilingual who never mixes languages, or when a bilingual is interacting with a person who has limited knowledge of the other language. We should note also that bilinguals differ among themselves as to the extent they travel along the continuum; some rarely find themselves at the bilingual end whereas others rarely leave this end (for example, bilinguals who live in tight knit bilingual communities where the language norm is mixed language).

### 2.1 The monolingual language mode

In this mode, bilinguals adopt the language of the monolingual interlocutor(s) and deactivate their other language(s) as completely as possible. Bilinguals who manage to do this totally and, in addition, who speak the other language fluently and have no foreign accent in it, will often "pass" as monolinguals. Although such cases are relatively rare, it is precisely these that have led people to think that bilinguals are (or should be) two monolinguals in one person. In fact, deactivation of the other language is rarely total as is clearly seen in the interferences bilinguals produce (these are also known as between-language deviations). An interference is a speaker-specific deviation from the language being spoken due to the influence of the other "deactivated" language. Interferences can occur at all levels of language (phonological, lexical, syntactic, semantic, pragmatic) and in all modalities (spoken, written or sign). They are of two kinds: static interferences which reflect permanent traces of one language on the other (such as a permanent accent, the meaning extensions of particular words, specific syntactic structures, etc.) and dynamic interferences which are the ephemeral intrusions of the other language (as in the case of the accidental slip on the stress pattern of a word due to the stress rules of the other language, the momentary use of a syntactic structure taken from the language not being spoken, etc.). Examples of interferences produced by a French person speaking English are as follows. At the phonetic level, pronouncing *Sank evven for dees* instead of *Thank heaven for this*; at the lexical level, using *corns* (from French *cornes*) instead of *horns* in *Look at the corns on that animal!*; at the syntactic level, saying *I saw this on the page five* (instead of *on page five*), and in writing, misspelling *adress* or *apartment* (based on the French *adresse* and *appartement*).

In addition, if one of the bilingual's languages is mastered only to a certain level of proficiency, deviations due to the person's interlanguage (also known as within-language deviations) will also occur. These include overgeneralizations (for example, taking irregular verbs and treating them as if they were regular), simplifications (dropping pluralization and tense markers, omitting function words, simplifying the syntax, etc.) as well as hypercorrections and the avoidance of certain words and expressions. Between- and within-

language deviations are clearly observable when bilinguals are in a monolingual language mode but they also occur in the bilingual language mode (see below). It should be noted finally that both types of deviations, although sometimes quite apparent (such as a foreign accent), usually do not interfere with communication. This is because bilinguals develop their languages to the level of fluency required by the environment. Deviations in bilingual speech are thus of the same nature as slips of the tongue and hesitation phenomena. They are present but do not usually affect communication.

## 2.2 The bilingual language mode.

In this mode, bilinguals interact with one another. First they adopt a language to use together, what is known as the "base language" (also the "host" or "matrix" language). This process is called "language choice" and is governed by a number of factors: the interlocutors involved (i.e. their usual language of interaction, their language proficiency, language preference, socioeconomic status, age, sex, occupation, education, kinship relation, attitude toward the languages, etc.); the situation of the interaction (location, presence of monolinguals, degree of formality and of intimacy), the content of the discourse (topic, type of vocabulary needed) and the function of the interaction (to communicate information, to create a social distance between the speakers, to raise the status of one of the interlocutors, to exclude someone, to request something, etc.). Language choice is a well-learned behavior (a bilingual rarely asks the conscious question, "Which language should I be using with this person?") but it is also a very complex phenomenon which only becomes apparent when it breaks down. Usually, bilinguals go through their daily interactions with other bilinguals quite unaware of the many psychological and sociolinguistic factors that interact to help choose one language over another. We should note that the base language can change several times during a single conversation if the situation, topic, interlocutor, etc. require it.

Once a base language has been chosen, bilinguals can bring in the other language (the "guest" or "embedded" language) in various ways. One of these ways is to code-switch, that is to shift completely to the other language for a word, a phrase, a sentence. (For example, *Va chercher Marc and bribe him avec un chocolat chaud with cream on top* (Go get Marc and bribe him with a hot chocolate with cream on top)). Code-switching has long been stigmatized, and has been given a number of pejorative names such as *Franglais* (the switching between French and English) or *Tex-Mex* (the switching between English and Spanish in the southwestern part of the United States). The consequence of this has been that some bilinguals never switch while others restrict it to situations in which they will not be stigmatized for doing so. Recently, code-switching has received considerable attention from researchers. For example, sociolinguists have concentrated on when and why switching takes place in the social context. Reasons that have been put forward are: to fill a linguistic need, to continue the last language used, to quote someone, to specify the addressee, to exclude someone from the conversation, to qualify a message, to specify speaker involvement, to mark group identity, to convey emotion, to change the role of the speaker, etc. Linguists, on the other hand, have sought to study the types of code-switches that occur (single words, phrases, clauses, sentences, etc.) as well as the linguistic constraints that govern their appearance. Although there is still considerable controversy over this latter aspect (are constraints universal or language specific? how broad can a constraint be?) it is now clear that switching is not simply a haphazard behavior due to some form of "semilingualism" but that it is, instead, a well governed process used as a communicative strategy to convey linguistic and social information.

The other way bilinguals can bring in the other, less activated, language is to borrow a word or short expression from that language and to adapt it morphologically (and often phonologically) into the base language. Thus, unlike code-switching which is the juxtaposition of two languages, borrowing is the integration of one language into another. Most often both the form and the content of a word are borrowed (to produce what has been called a loanword or more simply a borrowing) as in the following examples taken from French-English bilinguals: "*Ca m'étonnerait qu'on ait code-switché autant que ça*" (I can't believe we code-switched as often as that) and "*Maman, tu peux me tier /taie/ mes chaussures*" (Mummy, can you tie my shoes?). In these examples, the English words "code-switch" and "tie" have been brought in and integrated into the French sentence. A second type of borrowing, called a loanshift, consists in either taking a word in the base language and extending its meaning to correspond to that of a word in the other language, or rearranging words in the base language along a pattern provided by the other language and thus creating a new meaning. An example of the first kind of loanshift would be the use of *humoroso* by Portuguese-Americans to mean 'humorous' when the original meaning is 'capricious'. An example of the second kind is the use of idiomatic expressions that are translated literally from the other language, such as "*I put myself to think about it*" said by a Spanish-English bilingual, based on "*Me puse a pensarlo*". It is important to distinguish idiosyncratic loans (also called "speech borrowings" or "nonce borrowings") from words which have become part of a language community's vocabulary and which monolinguals also use (called "language borrowings" or "established loans"). Thus, in the following text, every third or fourth word is an established loan from French which has now become part of the English language: "*The poet lived in the duke's manor. That day, he painted, played music and wrote poems with his companions.*" Current research is examining, among other things, the differences and similarities that exist between code-switches and borrowings (and within the latter, between idiosyncratic borrowings and established borrowings), as well as the impact of the two on language itself, such as first- and second-language restructuring.

### 3. The psycholinguistics of bilingualism

The psycholinguistics of bilingualism is aimed at studying the processes involved in the production, perception, comprehension and memorization of the bilingual's languages (spoken, written or signed) when used in a monolingual or a bilingual language mode. Until recently the emphasis has been put on the independence of the bilingual's languages (how does the bilingual keep the two languages separate? does the bilingual have one or two lexicons?) to the detriment of issues such as the on-line processing of language, be it in a monolingual or in a bilingual language mode. Much research was conducted, for example, on the coordinate-compound-subordinate distinction. According to it, there are three types of bilinguals: coordinate bilinguals who have two sets of meaning units and two modes of expression, one for each language (this means that the words of the two languages are totally separate entities); compound bilinguals who have one set of meaning units and two modes of expression ("equivalent" words in different languages have the same meaning); and subordinate bilinguals who have the meaning units of the first language and two modes of expression: that of the first language and that of the second, learned by means of the first (here the bilingual interprets words of the weaker language through the words of the stronger language). Despite the inherent appeal of this distinction, no amount of experimentation has brought conclusive evidence that bilinguals can be classified as coordinate, compound or subordinate.

Another area of considerable investigation has been whether bilinguals possess one or two internal lexicons. Proponents of the one-lexicon view (also referred to as

interdependent storage) state that linguistic information is stored in a single semantic system. Words from both languages are organized in one large lexicon, but each word is "tagged" to indicate the language it belongs to. Other researchers have claimed that bilinguals have two lexicons (the independent storage view), and that the information acquired in one language is available in the other only through a translation process. Again, despite a large number of studies, no clear-cut results have been found. In fact, it has been proposed recently that bilinguals have three stores, one conceptual store corresponding to the bilingual's knowledge of the world and two language stores, one for each language.

A third issue of interest has been the ability of bilinguals to keep their two languages separate in the monolingual mode. Researchers have postulated the existence of a language switch which allows bilinguals to gate out the other language, and experimental studies have been conducted to find evidence for this proposal. The results obtained have been inconclusive or, at the very least, questionable, and currently it is felt that no switch, be it psycholinguistic or neurolinguistic, exists in bilinguals. Rather, it has been proposed that bilinguals are probably using various activation and deactivation procedures to maintain their languages separate in the monolingual mode and to make them interact in the bilingual mode.

Now that it is more generally accepted that the bilingual is not two monolinguals in one person, but a unique speaker-hearer using one language, the other language, or both together depending on the interlocutor, situation, topic, etc. (see above), current psycholinguistic research is trying to understand the processing of language in the bilingual's different language modes. Researchers are studying how bilinguals in the monolingual mode differ from monolinguals in terms of perception and production processes, and they are investigating the actual interaction of the two languages during processing in the bilingual mode. This latter issue has produced some interesting findings. For example, in the recognition of "guest" words (borrowings and code-switches) the phonotactics of the word (whether it is marked clearly as belonging to one or the other lexicon), the presence or absence of a base language homophone, the language phonetics of the word (the pronunciation of the guest word in one language or in the other), and the language that precedes the word (the base language context), all play a role in the recognition process. Actual models of bilingual processing are now being proposed to account for the data obtained. Thus, an interactive activation model appears to accommodate the word recognition results just presented. In the production domain, researchers are attempting to explain the underlying processes involved in the on-line production of code-switches and borrowings and a number of models are also being proposed.

#### **4. The neurolinguistics of bilingualism**

Neurolinguists have long been interested in describing how language is organized in the "bilingual brain" and how this organization differs from that of the monolingual. One approach has been to observe and test bilingual aphasics in order to better understand which languages have been affected by brain injury and which factors best account for the different patterns of recovery of the languages. Another approach has been to study normal bilinguals to ascertain whether language processing occurs mainly in the left hemisphere of the brain (as it appears to do in monolinguals) or in both hemispheres.

As concerns aphasia, researchers have observed various recovery patterns of the bilingual's two or more languages after injury (they have been labelled parallel, differential, successive, antagonistic, selective, mixed) and they have tried to account for the factors that

seem to play a role in non-parallel recovery (that is, when the languages are not all recovered together at the same rate). Currently, no single factor has emerged to explain the different types of recovery patterns, and it is not known whether recovery significantly differs following therapy in one language, in the other or in both. It would appear, though, that if a language is not recovered, it is not that it is lost, but simply that it is inhibited, temporarily or permanently.

On the topic of language lateralization, it is now a well-known fact that the left hemisphere of the brain in monolinguals is dominant for language. The question has been whether bilinguals also show strong left-hemisphere dominance for language. Until a few years ago, and based on case studies of bilingual aphasics and on experimental results, some researchers proposed that bilinguals use the right hemisphere in language processing more than monolinguals. However, after further studies that were better controlled, there appears to be clear evidence that monolinguals and bilinguals do not differ at all in hemispheric involvement during language processing. As concerns language organization in the bilingual brain, most researchers agree that the bilingual's languages are not stored in completely different locations. In addition, it would appear that bilinguals have two subsets of neural connections, one for each language (each can be activated or inhibited independently) while at the same time possessing one larger set from which they are able to draw elements of either language at any time. This said, the bilingual brain is still very much terra incognita, and only further experimental and clinical research will tell us how similar it is to the monolingual brain and in what ways it may be different.

## **5. The bilingual person**

In this last section we will discuss the attitudes and feelings bilinguals and monolinguals have towards bilingualism, various mental activities in bilinguals, the interaction of language and emotion, and the personality of bilinguals.

### 5.1. Attitudes and feelings about bilingualism

It would appear from various surveys that have been conducted that either bilinguals have no strong feelings about their bilingualism (it is simply a fact of life!) or that they see more advantages than inconveniences in having to live with two (or more) languages. Most appreciate being able to communicate with people from different linguistic and cultural backgrounds, others feel that bilingualism gives them a different perspective on life, that it fosters open-mindedness, allows one to read and often write in a different language, makes learning other languages easier, gives more job opportunities, etc. As for inconveniences, these are less numerous and involve such aspects as mixing languages involuntarily, having to adjust to different cultures, feeling one is losing one of the languages one possesses (usually a minority language) or having to act as a translator on various occasions. It is interesting to compare these reactions to the attitudes and feelings that monolinguals have towards bilingualism. These are extremely varied, ranging from very positive attitudes (such as wonder at the fact that some bilinguals can speak and write two or more languages fluently) to very negative attitudes (such as surprise that many bilinguals do not master their two languages perfectly, that they cannot translate automatically from one language to another, etc.). It should be noted that most of the views that monolinguals have about bilinguals are usually based on socio-economic and cultural considerations rather than on linguistic factors.

### 5.2 Mental activities, emotion and stress

Little is known about the languages used by bilinguals in their mental activities or how bilinguals react when under stress or in an emotional situation. It does seem to be the case that many mental operations are language specific. Thus, bilinguals usually count and pray in the language in which they learned these behaviors. Thinking or dreaming also seem to be language specific and depend on the person, the situation and the topic involved (see above). When tired, angry or excited, bilinguals will often revert back to their mother tongue or to whatever language they usually express their emotions in. Stress may also cause more interference, problems in finding the appropriate words, and unintentional switching. In addition, it has been reported that bilinguals wish that the monolinguals closest to them (spouse, companion, friends) were also bilingual.

### 5.3 Personality and bilingualism

Some bilinguals report that when they change language they change attitudes and behaviors. This has been alluded to quite frequently in the literature: some bilinguals seem to hold slightly different views depending on the language they are speaking; some others are more authoritarian in one of their languages; others still are more reserved or gentle, etc. Is it possible to conclude from this that there is some truth to the Czech proverb, "Learn a new language and get a new soul"? Some would answer in the affirmative and go as far as to say that the bilingual has a split personality. In fact, there appears to be no real evidence that bilinguals suffer any more from mental disorders than monolinguals. In fact, what is seen as a change in personality is simply a shift in attitudes and behaviors corresponding to a shift in situation or context, independent of language. As we saw above, bilinguals will choose a language according to the situation, the interlocutor, the topic and the intent of the conversations. These factors trigger different attitudes, impressions and behaviors (just as they do in monolinguals who modify the content and form of their discourse depending on the context), and thus what is seen as a personality change due to language shift may really be a shift in the situation and interlocutor. In a word, it is the environment as a whole that causes the bilingual to change languages, along with attitudes, feelings and behaviors - and not language as such. The main difference between monolinguals and bilinguals in this respect is that bilinguals often shift languages (and hence appear to be different people) whereas monolinguals do not. In addition, bilinguals are often switching from one culture to another in their interactions (many are bicultural) whereas monolinguals usually remain within the same culture.

## 6. Future research

Despite what is already known about the bilingual individual, much more research needs to be conducted on the topic. The emergence of a wholistic view of bilingualism is encouraging researchers to move away from the monolingual yardstick and develop a true linguistics of bilingualism. However, many issues require further study: the structure and organization of the bilingual's different languages; the various processing operations involved in the perception, production and memorization of language when the bilingual is in the monolingual or the bilingual language modes; the linguistic and psycholinguistic differences (and similarities) between code-switches, borrowings and interferences; the organization of the bilingual brain; and finally, the psychology of the bilingual and bicultural person.

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