Bilinguality and Bilingualism

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1   Definitions and guiding principles

The aim of this book is to review critically the state of the art in the field of languages in contact. By 'languages in contact' we mean 'the use of two or more codes in interpersonal and intergroup relations as well as the psychological state of an individual who uses more than one language'. We distinguish between bilingualism and bilinguality. The concept of bilingualism refers to the state of a linguistic community in which two languages are in contact with the result that two codes can be used in the same interaction and that a number of individuals are bilingual (societal bilingualism); but it also includes the concept of bilinguality (or individual bilingualism). Bilinguality is the psychological state of an individual who has access to more than one linguistic code as a means of social communication; the degree of access will vary along a number of dimensions which are psychological, cognitive, psycholinguistic, social psychological, social, sociological, sociolinguistic, sociocultural and linguistic (Hamers, 1981).

1.1   DEFINITIONS

The concept of bilingualism seems at first sight to be non-problematical. According to Webster's dictionary (1961) bilingual is defined as 'having or using two languages especially as spoken with the fluency characteristic of a native speaker; a person using two languages especially habitually and with control like that of a native speaker' and bilingualism as 'the constant oral use of two languages'. In the popular view, being bilingual equals being able to speak two languages perfectly; this is also the approach of Bloomfield (1935: 56), who defines bilingualism as 'the native-like control of two languages'. In contradistinction to this definition which includes only 'perfect bilinguals' Macnamara (1967a) proposes that a bilingual is anyone who possesses a minimal competence in only one of the four language skills, listening comprehension, speaking, reading and writing, in a language other than his mother tongue. Between these two extremes one encounters a whole array of definitions as, for example, the one proposed by Titone (1972), for whom bilingualism is the individual's capacity to

speak a second language while following the concepts and structures of that language rather than paraphrasing his or her mother tongue.

All these definitions, which range from a native-like competence in two languages to a minimal proficiency in a second language, raise a number of theoretical and methodological difficulties. On the one hand, they lack precision and operationalism: they do not specify what is meant by native-like competence, which varies considerably within a unilingual population, nor by minimal proficiency in a second language, nor by obeying the concepts and structures of that second language. Can we exclude from the definitions of bilingual someone who possesses a very high competence in a second language without necessarily being perceived as a native speaker on account of a foreign accent? Can a person who has followed one or two courses in a foreign language without being able to use it in communication situations, or again someone who has studied Latin for six years, legitimately be called bilingual? Unless we are dealing with two structurally different languages, how do we know whether or not a speaker is paraphrasing the structures of his mother tongue when speaking the other language?

On the other hand, these definitions refer to a single dimension of bilinguality, namely the level of proficiency in both languages, thus ignoring non-linguistic dimensions. For example, Paradis (1986: xi), while suggesting that bilinguality should be defined on a multidimensional continuum, reduces the latter to linguistic structure and language skill. When definitions taking into account dimensions other than the linguistic ones have been proposed, they too have been more often than not limited to a single dimension. For example, Mohanty (1994a: 13) limits the definition of bilingualism to its social-communicative dimension, when he says that 'bilingual persons or communities are those with an ability to meet the communicative demands of the self and the society in their normal functioning in two or more languages in their interaction with the other speakers of any or all of these languages'.

More recent definitions insist on the specific characteristics of the bilingual. For example, Grosjean (1985a) defines a bilingual speaker as more than the sum of two monolinguals in the sense that the bilingual has also developed some unique language behaviour. Equally for Lüdi (1986) bilinguality is more than an addition of two monolingual competences, but an extreme form of polylectality.[1]

Baetens Beardsmore (1982) has listed some definitions and typologies of bilingualism, very few of which are multidimensional. These dimensions are further discussed in Section 2.2. But we have no intention of reviewing all the definitions or typologies that have been put forward for bilingualism. In this book, we will mention only those which are operational and can be applied in empirical research or those which are based on a

theoretical construct. While discussing most of the important theoretical approaches to the study of bilingualism, we will also propose our own approach, which follows from the theoretical guiding principles under-pinning the study of language behaviour outlined in the next section. It should be clearly understood that any adequate model of bilingual behaviour must be consistent with a more general model of language behaviour.

1.2   GENERAL GUIDELINES TO LANGUAGE BEHAVIOUR

In our view, language behaviour does not and cannot exist outside the functions it serves. By this we mean that language is in the first place a tool developed and used to serve a number of functions, both social and psychological, which can be classified in two main categories: communicative and cognitive (for more details, see, for example, Halliday, 1973; Bruner, 1990). Language does not exist in itself but has a use for the overall behaviour which is meaningful in a given culture. Functions of language are universal but the linguistic forms vary across languages and cultures. To some extent language is one of the variables which define culture. Moreover, language cannot be isolated from other aspects of behaviour. When language is processed by an individual it is always intermingled with cognitive and affective processes.

1.2.1   A functional approach to language behaviour

According to Bates & MacWhinney (1982) there are at least two levels of language processing: the functional level, where all the meanings and intentions to be expressed are represented; and, the formal level, at which all the surface forms used in the language are represented. Function plays a strong causal role in the way particular forms have evolved over time and in the way those forms are used by adults and acquired by children. Language is not just a device for generating structures but is seen as a potential for making meaning (Halliday, 1975). The linguistic system is only one form of the realisation of the more general semiotic system which constitutes the culture. In our approach we make a distinction between social functions, cognitive functions and semiotic-linguistic functions. Among the many cognitive functions that language fulfils, the semiotic-linguistic function (actor, action, goal) plays an active role in constructing meaning and therefore in developing formal language. Functions precede forms in the development and use of language, in the sense that forms are mapped onto the functions they serve.

Although the study of language can be conducted at several levels of analysis, in our view the nature of language behaviour, like that of other

complex human behaviours, remains the same regardless of the level of analysis:[2]

(1) There is a constant interaction between the dynamics of language behaviour at the societal level and language behaviour at the individual level. In other words, whereas at the individual level we view language behaviour, at least in part, as the outcome of societal factors, we consider also that language behaviour at the societal level is the outcome of individual language behaviour.

(2) At all levels and between levels there is a constant and complex mapping process between the form of language behaviour and the function it is meant to fulfil. We consider that the approach of the competition model used at the individual level (see Bates & Mac-Whinney, 1987) applies equally at the societal level.

(3) Language behaviour is the product of culture and as such it follows the rules of enculturated behaviour. It is not a mere product of a biological endowment, but it is a product of culture, transmitted from one generation to the next in the socialisation process and appropriated by each individual; but, in turn, language behaviour moulds culture, that is, cultural representations are shaped by language behaviour.

(4) Self-regulation is a characteristic of all higher-order behaviours and therefore of language behaviour. By this we mean that a behaviour is not a mere response to stimuli but that it takes into account past experience; furthermore, it does not follow a pattern of trial and error but is an evaluative response calling upon the individual's cognitive and emotional functioning, adapted to a given situation.

(5) Finally, one concept central to this dynamic interaction between the societal and the individual level is valorisation. By valorisation we mean the attribution of certain positive values to language as a functional tool, that is, as an instrument which will facilitate the fulfilment of communicative and cognitive functioning at all societal and individual levels (Hamers & Blanc, 1982). The concept of valorisation is of the utmost importance in language-contact situations.

In addition, when two languages are in contact there can be a state of equilibrium between the two languages at each level and for each form–function mapping, in which case the use of both languages is constant and predictable. This equilibrium is not unlike the one existing in ecological systems. Any change of the relation between the two languages, due to a change in form–function mapping or to a change in valorisation at any level, will provoke a change in language behaviour.

Interactions between the dynamics of individual behaviour and the

dynamics of the environment are current in biology and in evolutionary sciences. For example, the Neolithic revolution started with a change in individual behaviour, as a few humans started cultivating edible grasses rather than gathering them; when the behaviour spread and was adopted by a growing number of individuals, it started shaping the environment as woodlands gave way to cultivated fields; as cultivated fields spread, they in turn influenced the structure of the society which became organised around agriculture; this in turn changed the structures and called for a more collective behaviour in production and distribution, thereby changing the power relations in the society. Thus, a new form of behaviour (cultivating) served an existing function (need for food); when this mapping of form and function – that is when the new form of behaviour – became linked to the existing function, spread to a large enough number of individuals, this in turn changed the form of the landscape (from woods to fields) which came to serve the function of food growing. This twofold interplay between individual and society and between form and function is characteristic of processing in complex human behaviour.

Another example involving language behaviour is that of the origin of writing in Mesopotamia (see Schmandt-Besserat, 1992). Before a new language behaviour, i.e. writing, could come into existence, it started as a single mapping between form and function. Tokens with a specific shape (form) were designed and used as symbols for specific objects (e.g. a jar of oil) in order to record agricultural products (function); these symbols were first used in a one-to-one relationship with the objects (for example, five ovoid tokens stood for five jars). Next, a primitive system of counting appeared, e.g. one token was marked with five incisions. An important cognitive step was taken when an ovoid token (form) no longer represented a specific jar but the concept of jar and when the incisions represented an abstract concept of number (new functions). By introducing a system of counting (form), a large number of functions could be served; abstracting the concept of number enabled people to count any object. However, this did not happen before the use of the tokens had spread to a large enough area of the Ancient Near East and they were used by a critical but not necessarily large number of individuals. This critical mass[3] consisted of a few individuals who had power and status in the society (bureaucrats, administrators and scribes).

Each individual who had to use the system had also to develop the new concepts at the individual level. For example, at the cognitive level, a distinction had to be made between 'how much' and 'how many'. Each new form invented had to serve a specific function. In turn, creating a new form–function mapping and a new system would first be reflected in the individual's use of language and, in a next stage, in the language used in

society. By creating a new system, new forms had to be invented not only to designate the new concepts (e.g. forms to denote 50, 250, 2500, but also to express the relations between 5, 50 and 500). These signs expressing abstract numbers indicated a new threshold in counting. When abstract counting was appropriated by the society, it gave rise to a new system of data storage and communication with the development of numerals and cuneiform pictography, that is, a writing system, which, in turn, would facilitate the development of a type of literacy.[4]

Introducing an individual to the language used in literacy, mainly through the means of learning to read and write, will induce changes in his or her language behaviour. For example, processing a written text calls to a greater extent on the use of decontextualised language. When few people were literate, the behaviour of individuals was changed with little effect on the social structures. As more and more people become literate, linguistic forms are mapped onto new cognitive functions; when a critical mass is reached, a need for new social institutions, such as schools (form), is created. In turn, these institutions serve the function of literacy; as the need to fulfil this function continues to grow, new norms, which evolve into a recognised fundamental right for education (form), are created. This, in turn, shapes individual behaviour: when schooling becomes compulsory, all individuals in a given society are expected to master reading and writing, thus shaping their own individual behaviour.

In their competition model Bates & MacWhinney (1982) suggest that, in language development, mapping occurs between two levels, the functional and the formal. This model is congruent with more general theories in psychology, in particular with connectionism, such as Hebb's neuro-physiological theory of cell-assembly[5] (Hebb, 1949; 1968). It is also in line with the studies of language development which discuss the importance of the functional aspects of language (see, for example, Halliday, 1973; 1975). The two-level mapping between function and linguistic form is based on the assumption that linguistic forms are developed to express meanings and communicative intentions. As language develops, form–function mapping is not necessarily a one-to-one correlation: a single form can be mapped onto different functions, e.g. *it's cold in here* might have a referential function, meaning *the temperature is low*, or an instrumental-regulatory function meaning *turn on the radiator*. Conversely a single function may be served by several linguistic forms: an order can be expressed by an imperative, an interrogative, etc. Furthermore, three types of mapping are involved: form–function, function–function and form–form. These three types of mapping do not work independently in the language system but occur simultaneously; for example, for the utterance *I play*, a form–function mapping *I(agent)–I(linguistic form)* occurs simultaneously with an-

other form–function mapping *I(agent)–play(linguistic form)*, a function–function mapping *I(agent)–play(act)* and a form–form mapping *I(linguistic form)–play(linguistic form)*.

Similar phenomena can be observed at the societal level. A typical example is provided by the pidginisation process (see Section 10.3.5). Pidgins are auxiliary languages (form) developed for the purpose of minimal communication between individuals/groups speaking mutually unintelligible vernaculars (function). In the pidginisation process, limited and simplified linguistic forms are developed. As the need for communication increases in the society (function), so new forms are created by the speakers. Gradually these new forms serve extended functions. Eventually the pidgin evolves into a creole (form), becomes the mother tongue of the next generation, and thereby serves new functions.

The forms of language are not static but undergo constant changes due to social changes; for example:

- a change of accent as a sign of distinctiveness, or a change of language use or language form as a result of language planning, e.g. a language compulsory in education;
- new technologies such as the introduction of computer technology using English;
- and contact with other languages as for example the conquest of England by the Normans.

New forms apply to old functions, as when a new expression is used by teenagers; in the same way old forms apply to new functions, as for example the English word *save* in using a computer; or new forms can be developed for new functions (e.g. new terminology). Forms can be created, e.g. *television*, or borrowed from other languages, as the French word *garage* in English. Forms can cease to be used if they no longer serve functions, as is the case in L_1-attrition in immigrants.

At the individual level higher-order behaviour is self regulated. While the behaviour is performed, the individual takes into account feedback mechanisms and readjusts constantly his behaviour. An example of this type of behaviour is speech accommodation in interpersonal communication interaction (as when a speaker switches languages to be understood by a non-native speaker; see further Section 9.1). We argue that similar mechanisms occur also at a collective level. For example, in the process of pidginisation a group of speakers from different cultural and linguistic backgrounds adjust to their new situation by developing a new code in order to communicate both with one another and with their masters (see Section 10.3.5).

All societies value language as a tool of communication and of cognition;

however, they tend to valorise certain functions more than others, e.g. the cognitive function in school. If different varieties of language, e.g. accents, are present in the society, one variety may be valued to the detriment of others. A similar situation obtains in the case of multilingual societies. One or more languages will be highly valued, while others will be devalorised. At the individual level a similar mechanism operates. To the extent that the adults around the child value the use of language for certain functions, he will also value the use of language for these functions and thus develop these aspects. The extreme importance of valorisation is evidenced at all societal and individual levels. For example, at the societal level, if a minority language is not valorised and used as a tool for education, language attrition and language shift are likely to occur. At the individual level, the positive valorisation of all or some of the values linked to the formal and functional aspects of language will help to elaborate and trigger off a motivational process for learning and using those aspects of language.

To sum up, in analysing language behaviour we will focus on different societal and individual levels: societal (institutions, groups and social class), social networks and interpersonal relations, individual (developmental, socio-affective, cognitive and neuropsychological processes as well as language behaviour). At each of these levels, we view language behaviour as dynamic: there are constant interactions amongst the determining factors within and between the different levels; for example, we cannot draw a complete picture of lexical development unless we also take into consideration relevant aspects of syntactic development, cognitive growth, interpersonal relations and social class. Language behaviour is the outcome not only of the multiple interactions between different factors, but also of social and psychological mediating processors. For instance, a social determinant like social class does not influence language production directly, but is mediated by the social networks; the acquisition of a second language is not only a function of the teaching method, but is also mediated by, for example, attitudes in the community and by individual motivation.

1.2.2   A general model of language behaviour

The following model is based on the functional approach to language behaviour described in the preceding section. In this functional approach we view language processing as a sequence of levels of processing embedded in one another; that is, the micro-levels are embedded in more macrolevels. If, for example, we analyse language processing at the level of social networks, it is embedded in language processing at the societal level; if we consider language processing at the interpersonal level it is embedded in social networks; language processing at the personal level is in turn embed-

ded in interpersonal relations. Society is also a multilevel construction: language as shared behaviour is processed in terms of rules, norms and roles; this behaviour can be analysed in terms of institutions, classes or groups. In a similar way, at the individual level language behaviour is processed in terms of development, cognitive functioning, social psychological mechanisms, neuropsychological functioning or linguistic output. It is understood that these different levels of processing are not independent from one another.

The interface between the societal and the individual levels is situated in the interpersonal interactions actualised through the social network (Hamers, 1987). Our approach is schematised in Figure 1.1. It must be pointed out that language behaviour is present at all levels $<A>$, $<B>$, $<C>$ and $<D>$. Furthermore, each level can be represented at different times: X_0, X_1, X_2, etc. Given that a particular language behaviour occurs at a time X_1, this behaviour produced by an individual will result on the one hand from an interplay between embedded structures, i.e. the social structure, the social networks, the interpersonal interaction occurring at a time X_1; and, on the other hand, from a similar interplay at an earlier time, X_0. This earlier interplay is a determining antecedent (past experience) from the onset of language development onwards which will fulfil an important role in the self-regulation of the present behaviour. In addition, present language behaviour is likely to play a role in shaping future collective language behaviour, provided that a critical mass of individuals have adopted this behaviour. A critical mass presupposes a number of speakers but the size of the mass may vary as a function of the power and status of the speakers.

At each level we consider that similar mechanisms operate: an intake (i/t) from the previous level will integrate with elements from the present level including past experience and present evaluation (x) and will through self-regulation, feedback mechanisms and form–function mapping produce an output (o/p) that will serve as input (i/p) for the next embedded level.

At a time X_1 level $<A>$ provides an input *(a)* for an embedded level $<B>$; at level $<B>$ all or part of this input is restructured as *(b)* (i/t), which is integrated with some specific characteristics of $<B>$ (xb) to produce [*(b)*;xb]. Let us take as an example a bilingual situation, e.g. the case of French and Arabic in France. The societal level $<A>$ provides an output *(a)* of two languages with a status difference: a high status official language, French, and a low status immigrant language, Arabic; French is dominant over Arabic. Both languages are unequally valorised in the society. At the social network level $<B>$ there will be an intake *(b)* from this status difference which will be integrated with the status of Arabic as the mother tongue, which is more valorised and the language of communication in the network (xb) to produce [*(b)*;xb]. These two elements integ-
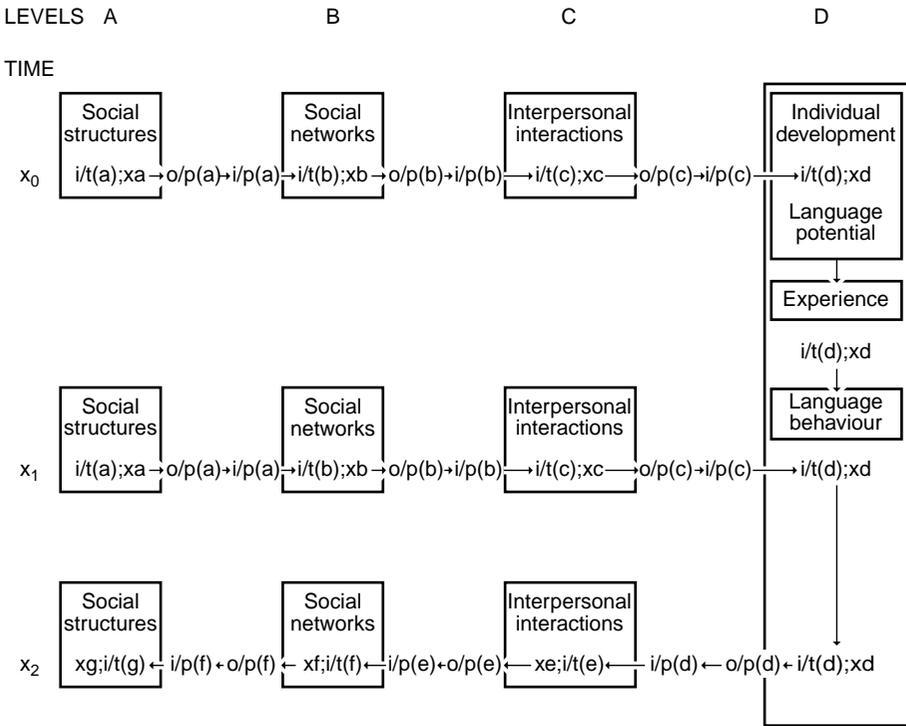
Figure 1.1   A general model of language behaviour

rated together [(b);xb] will redefine the relative status of French and Arabic in the network: French might still be perceived as dominant, but Arabic will be more valorised, used to a greater extent and serve more functions (e.g. communicative and affective functions); mapping of the choice of language onto a given situation will occur in a different way from the preceding level. The use of both languages in the network will differ from the use of both languages in the larger society.

The use and status of both languages in the social network [(b);xb] will in turn serve as input for interpersonal interactions (level <C>); with an (i/t) (c) from this i/p, individuals will integrate their own contribution (xc) (for example the degree of mastery in both languages) to produce [(c);xc]. At the interpersonal level <C>, which is the interface between the societal and the individual levels, Arabic (along with French or not) will be transmitted as the mother tongue to the infant with a status perceived in the interpersonal relations. At the individual level <D> the child will first develop Arabic as his mother tongue with the presence of some French around him; as the child's social networks extend to include the school and

the peer group, the relative status and valorisation of both languages will change and the intake from the interpersonal level will vary: the input of French will increase drastically. The child's i/t ((d)) at level $<D>$ from the interpersonal relations in the networks (in terms of status and mastery) will be integrated with its own specific characteristics (xd) to produce $[(d);xd]$ which will determine linguistic output. It must be borne in mind that the child's characteristics include the intake received at a time X_0, that is, all former experience, including the developmental aspects. It must be noted that this personal input in the infant is limited to a communicative and language potential whereas in the already socialised adult it includes a number of social/emotional and cognitive dimensions. The interplay between the intake during childhood and the developing characteristics of the child (e.g. cognitive development) $[(d);xd]$ will in turn produce the final individual language behaviour of the adult speaker at level $<A>$. This is however not a linear relation, since level $<D>$ will in turn provide an input for level $<D>$ which will receive an intake (e), which will, in turn, integrate it (xe) to produce $[(e);xe]$, and so on until it produces an input (f) for level $<A>$ at a time X_2. However, in order for the individual input to have an effect on level $<A>$ a critical mass must be reached. For example, if enough individuals use and want to maintain Arabic and if they have enough power and status, they can impose new institutions such as schooling in Arabic. This will change the social structures, which will affect the language behaviour of the next generation.

1.2.3   Developmental aspects of language behaviour

Modelling of language behaviour has been developed to a greater extent at the individual level than at the societal level. Generally these models are rooted in a larger framework of psychological theorising. For example, Bruner (1990) views language development as part of a general model of cognitive development rooted in social interactions; Piaget's (1970) constructivist approach to language is embedded in a more general approach to human behaviour, calling on a model of equilibrium between adaptation and accommodation; Bates & MacWhinney's (1982) competition model is a general psycholinguistic model of language processing based on a connectionist approach of the study of behaviour. According to Pinker (1996) a comprehensive theory of language acquisition must consider the following aspects: the state of the child at the onset of acquisition; the linguistic input and its context; the mental algorithms that turn this input into knowledge about the language; the end state of the process, i.e. a grammatically competent speaker, and the evolution of the process, i.e. what children understand and produce during the acquisition process.

Linguistic and psychological approaches to language acquisition differ in the emphasis they put onto and the relative importance they attribute to each of these aspects. Pinker (1996), for example, while recognising the role played by parental input in child language acquisition, emphasises the role played by mental algorithms, considered to be innate. Bates & MacWhinney (1982) rather emphasise the role of input characteristics (form, functions, cues) which interact with the child's cognitive processing (mapping, evaluation) to produce competing potential outputs amongst which the most likely will be chosen. Bruner (1990) insists on the internalisation of communicative functions and the development of intentions at the prelinguistic stage.

Our aim here is not to enter into this type of debate but rather to explain our own positions on the development of language behaviour in order to analyse the development of binguality in the light of general theorising which is congruent with the guidelines mentioned in Section 1.2.1. In Chapter 5 we propose a theoretical approach to the development of binguality based on broader general assumptions of child language development.

In our functional approach we consider that language development is rooted in the social interactions with the significant others; furthermore it has an important social psychological component and an equally important cognitive component (Hamers & Blanc, 1982). Functions that language will later serve are developed before the child acquires the linguistic forms. According to Bruner (1975a), before developing language the child learns some communicative functions through cooperative actions, which are arrived at through joint attention with the adults who are interacting with the child. The child is initially equipped with 'a set of predispositions to construe the social world and to act upon our construals' (Bruner, 1990: 73). Through interactions with others he will develop a prelinguistic readiness for meaning, i.e. a context sensitivity which will enable him to make the linguistic forms present in the environment his own.

Considering our general approach described above, language development which occurs at level $<D>$ receives an input (c) from level $<C>$ through the joint actions and the interpersonal interactions with the significant others. In turn these interactions occur in the social networks of the significant others, essentially the family network $<B>$, from which they receive an input (b); the social network level $<B>$ receives an input (a) from the societal level $<A>$.

According to the competition model (Bates & MacWhinney, 1989) language acquisition is guided by form–function correlations; these correlations give meaning to language. These correlations exist in the input amongst other cues which the children are able to pick up. Although

children are able to pick up other cues, i.e. recurring patterns in the sound stream, this process is facilitated when meaning is available. However, language acquisition has also a perceptual/motor prerequisite: the child must be able to perceive forms before any form–function mapping can occur. Once forms have been identified in the input, they can be mapped onto existing communicative functions. According to connectionism form–function, form–form and function–function correlations will occur in order to form complex higher-order organisations (such as nodules or cell-assemblies) which are responsible for the complexities of language processing.

We make a further distinction between communicative, cognitive and linguistic functions. By communicative function we mean the social-communicative functions language is serving in the interactions, such as the instrumental (*I want*), regulatory (*do as I tell you*) and interactional (*me and you*) function. The cognitive functions include heuristic (use of the language to organise and analyse knowledge) and mathetic (use of language for the purpose of discovery and learning) functions. The linguistic functions refer to the specific functions served by semantic elements, such as actor, action and goal, in an utterance. It should be stressed that there is not a one-to-one relationship between form and function: one form can be mapped onto several functions and one function can be mapped onto several forms.

Two important aspects of language development must be taken into consideration. First, form–function mapping will not occur outside a valorisation process. Second, as soon as elements of language are acquired they will be used as a cognitive tool and important interactions between language and cognitive functioning will develop.

The valorisation process deals with the affective dimension of language development. For the child to develop language he must first valorise language, i.e. attribute a certain positive value to the functions language is meant to serve (Hamers & Blanc, 1982). To the extent that the adults around him (level <B>) value the use of language for certain functions, the child will also value the use of language for these functions and thus develop these aspects. As a child's environment (levels <C> and <B>) attaches certain values to language, the child, taking his environment as a model, internalises those values important for the significant others <B>, for his social networks <C> and for his community <A>. Those valorised aspects of language are those that enable the child to build up the social psychological mechanisms relevant to his language development; it is those very aspects that determine the evaluative dimension of language, the child's own affective relation to his language. The child (level <D>) will thus construct a certain notion of prestige conferred on language and language functions by society (level <A>), which,

after they have been moulded at levels <B> and <C>, he will internalise. This affective dimension of language behaviour will play the role of an important mediator in the process of language development, i.e. in construing the motivational mechanisms, more particularly when different languages are present in the child's environment (see further Chapter 8). In some cases it will also be relevant to the construction of the social/cultural/ethnic identity.

As soon as language develops it becomes an important tool of cognitive functioning. This function is what Bruner (1975b) calls 'analytic competence', the conceptual-linguistic abilities involving 'the prolonged operation of thought processes exclusively on linguistic representations and propositional structures'. Linguistic representations are not stored in their original input form but undergo a processing and are stored in propositional forms. The conceptual-linguistic abilities are crucial in the comprehension of abstract concepts, the analysis of linguistic statements, the understanding of subtle semantic distinctions, etc. They will in turn play an important role in the further growth of language behaviour, and particularly in the development of metalinguistic awareness and metalinguistic ability, which are both crucial to the development of literacy. According to Bialystok & Ryan (1985a) the literacy-oriented use of language rests on two independent cognitive operations: (1) the analysis of knowledge which calls upon the manipulation of representations and (2) the cognitive control which is responsible for selecting and coordinating the required information within a given time and space. Metalinguistic activities require high levels of information processing in terms of both analysis and control.

Bialystok & Ryan's information-processing model is different from most connectionist approaches in the sense that they assume that language processing occurs at two different levels and that language development undergoes a progressive analysis and restructuring of the mental representations of language: at a first level, the language form–function mapping consists of a set of semantic relations that organise our knowledge of the world; at a deeper level, the metalinguistic level, the underlying mental representations must be organised around forms and structures and must indicate how forms relate to meaning. At the metalinguistic level, the analysed representations of linguistic knowledge are formal symbolic rather than semantic or empirical, and the structures of these categories are explicit (Bialystok, 1991). However, the notion of mapping as developed by Bates & MacWhinney (1982) seems equally important to their approach.

Finally, as we argued earlier (Hamers & Blanc, 1982), an important concept in analysing language development is that of feedback mechanisms, operating within and between the different levels. By feedback mechanism we mean that the more the child is successful in using language to fulfil a

particular function, the more value he will attach to it, hence the more motivated he will be to use it for that particular function. On the other hand, the less successful the child is in using language for a particular function, the less value he will attribute to it and as a result the less motivated he will be to use language for that particular function. Thus every cognitive and social psychological processing will be intensified by the effect of its own feedback mechanism, which will operate as an amplifier.

When two or more languages are in contact they may be in a state of equilibrium or in a changing relation, at all levels (individual, interpersonal and societal). Any change in the form–function mapping or in the valorisation of either language leads to concomitant changes in language behaviour, and vice versa.

To sum up, in our view, the original input for language development comes from the child's social environment, via the social networks and the significant interactions with others. Perceptual processes must enable the child to pick up the meaningful cues. Internalisation processes of meaning, of language forms and of language values will serve as building blocks for his own language representations and processing mechanisms at the linguistic, at the cognitive and at the social psychological level. Cognitive processing, including mapping procedures, analysis of linguistic knowledge and control of linguistic processing, will shape the development of linguistic behaviour.

1.2.4   Collective aspects of language behaviour

Although no similar model at the societal level exists, we believe that this functional approach is equally valid at this level in the case of a monolingual society and is congruent with many social theories of language. Furthermore, it can be applied mutatis mutandis to language contact situations.

1.2.4.1   Monolingual situation

In addition to its communicative (message) and cognitive (intelligence) functions, language has a social function. By this we mean that any utterance carries a social meaning in that it reflects the position of its speaker in the power relations in the society which confers a particular social value to this utterance. It can be said that the whole social structure is present in every language interaction and that every interaction is mapped onto the social structure. Language is not homogeneous any more than society is; variation is inherent in language because language behaviour varies along social dimensions (e.g. social class). Languages and

varieties of language (accents, dialects, sociolects, codes) have a recognised value on the linguistic market (Bourdieu, 1982) and can be placed on a hierarchical scale according to their distance from the official, legitimate norm. Power relations between language varieties vary as a function of their speakers' access to the legitimate norm, and any discourse takes its social meaning from its relation to the linguistic market. Variations in discourse (i.e. in language behaviour) are a result of the interplay between the objective dynamic forces of the market and the way in which the individual perceives, evaluates and responds to these forces.

Language behaviour is linked to the market not only by its conditions of application (language use) but also by its conditions of acquisition (language acquisition/learning). The different language varieties and their values are learned in particular markets, first in the family, then at school, and so on, that is in the individual's social networks, where different functions and forms of language are transmitted and valorised. The interpersonal relations in the social networks are, therefore, the locus where the societal level and the individual level meet. The structures of social networks influence the individual's language behaviour: a dense, close-knit, multiplex network is a factor of ingroup solidarity, maintenance of local, non-standard norms, and resistance to linguistic change; whereas a diffuse, loose and simplex network implies social mobility and is therefore open to code change and the influence of outside norms (Milroy, 1980).

In summary, language behaviour at the interpersonal interactional level is the result of the dynamic interplay between the objective power relations at the societal level which confer unequal values to language and varieties of language and the individual's perception and evaluation of these, together with his own language experience acquired and used in the social networks. (For an attempt to synthesise these various aspects see Prujiner, Deshaies, Hamers, Blanc, Clément & Landry, 1984.)

1.2.4.2 *Bilingual situation*

When one language is present in the society and the social networks it is used for all functions, though differentially, as a reflection of the social structure. When two or more languages are in contact, their relative functional use is of the utmost importance; functional use, in addition, shapes relative valorisation of the languages, and vice versa.

When two languages are in contact in the society, they may be used to a different extent, in different domains and for different functions in a state of functional equilibrium. In the case of diglossia, the uses of each language are determined at the societal level. In that case we have a predictable form–function mapping (e.g. German-speaking Switzerland, where

the respective uses of High German for certain functions and Schwyzer-tüütsch for others are in complementary distribution in the society).

This state of equilibrium can be observed at all levels. However, if the equilibrium is disrupted at one level, it will disrupt the equilibrium at all other levels. For example, a change in the relative use of the two languages in the social networks, e.g. when the individual has a new network because of a job change, will inevitably provoke a change in the language behaviour of the individual. A change in the use of two languages at the societal level, like, for example, introducing a compulsory language of schooling (e.g. French in Quebec for the children of immigrants), will bring about a change in the use of language in the social network, hence in the interpersonal interactions and the language behaviour of the individual. When enough individuals start changing their language behaviour (e.g. using French instead of English), this will in turn modify language use in the interpersonal contacts (children will use French with their friends), in the social network (the peer group will use French) and hence at the societal level.

We will apply the functional model to the phenomenon of language shift and language attrition. Language shift is defined as the change from the use of one language to the use of another language across generations; language attrition is a shift occurring within one individual (for further details see Sections 3.5 and 10.4). In both cases it refers to the loss of functions, forms and language skills. The shift is complete when parents of one generation cease to transmit their language to their children and when the latter are no longer motivated to acquire an active competence in that language. Thus, language shift begins at the interpersonal level. What is the dynamic interaction between social, psychological and linguistic factors which determines language shift or language maintenance in a group? We will base our analysis on Gal's (1979) ethnographic study of a language shift in a German-Hungarian community in Austria. (The reader is referred to Section 10.3.3 for a more detailed analysis.)

At a time X_1 the societal level $<A>$ provides an input (a) of two language groups with a power difference (the German-speaking group is demographically and socially dominant) and two languages with a status difference (German is the high-status official language associated with urban values, while Hungarian is the low-status language/dialect associated with rural values). At the societal level, therefore, the two languages are unequally valorised; this is reflected in the asymmetry in the linguistic competence of the two groups, Hungarians being bilingual in Hungarian and German, Austrians monolingual in German. At the social network level $<B>$ this status difference is integrated with the more valorised Hungarian language/dialect as mother tongue and language of communi-

cation and emotion: in their dense and multiplex networks Hungarians still use their first language among themselves. But the presence of one Austrian in a dominant Hungarian network is sufficient to trigger a switch to German in interpersonal interactions with him/her. The status and use of the two languages in the social network are reflected at the interpersonal and personal levels. At the interpersonal level <C>, Hungarian is transmitted as mother tongue to the infant with a higher status perceived in the interpersonal interactions. At the personal level <D> the Hungarian child first develops Hungarian as his/her mother tongue; he/she is also aware of the use of German around him/her. As the child's social networks extend to include the school and the peer group, the relative status and thus the relative valorisation of the two languages changes again: the input from German at school and in the new network increases dramatically; modern urban values, associated with German language and culture, influence the child who starts speaking German in asymmetrical interpersonal interactions with Hungarians of the older generation in their own rural social network, while the latter is still using Hungarian only. As they grow up, many young Hungarians enter a German-speaking labour market and marry into a German-speaking family (new domains), thus extending even more widely their German-speaking networks. For example, a Hungarian woman marrying into an Austrian family, even if she decides to speak Hungarian to her children, soon code-switches between Hungarian and German with them; her Hungarian and that of her children inevitably is influenced by German. The shift and the attrition are already under way. Eventually, at time level X_2 a Hungarian mother in a German-dominated network may not even transmit her mother tongue to her children. When enough individuals cease to speak their first language, a critical threshold has been reached, below which the minority language will probably not survive beyond the next generation.

This case of language shift and language attrition is an example of dynamic interactions between and within levels, and of various form–function mappings: new forms (e.g. school or exogamous marriage) lead to other new forms (new language of instruction or languages of child-rearing), and the work function demands a new linguistic form (change of language).

1.3   CONCLUSION

In this chapter we first reviewed a number of definitions of bilingualism, none of which we have found to be satisfactory. One weakness is their unidimensionality; for example, they define the bilingual in terms of competence, ignoring other important dimensions. We discuss the different

dimensions in Section 2.1. Another weakness is the failure to take into consideration different levels of analysis (individual, interpersonal and societal). A third and major weakness is that those definitions are not underpinned by a general theory of language behaviour.

In the second part of the chapter we put forward a number of theoretical guiding principles which will underpin our approaches and analyses throughout the book. We view the nature of language behaviour like that of any other complex human behaviours, and indeed view them as being embedded in those behaviours. We consider the following basic principles of language behaviour:

(1) There is a constant interaction between the societal and the individual dynamics of language.
(2) Within and between levels there are complex mapping processes between the form of language behaviour and the functions it serves.
(3) There is a reciprocal interaction between culture and language.
(4) Self-regulation characterises all higher-order behaviours, and therefore language.
(5) Valorisation is central to these dynamic interactions.

It is understood that social and psychological realities are simultaneous: any person is at one and the same time an individual, a member of social networks and groups and part of the wider society.

We will examine the issue of languages in contact at the individual and the societal level in the light of these guiding principles which apply equally to the study of bilinguality and of societal bilingualism. In our view form–function mappings occur within and between the languages to different degrees at all levels of analysis. If these guiding principles inform our approach, this does not mean that we do not take into account other theoretical approaches.

In the next chapter we analyse the different dimensions of bilinguality and societal bilingualism. We have already mentioned the multidimensional nature of bilingualism, which calls upon an array of disciplines ranging from neuropsychology to developmental psychology, experimental psychology, cognitive psychology, psycholinguistics, social psychology, sociolinguistics, sociology, the sociology of language, anthropology, ethnography, political and economic sciences, education and, of course, linguistics.