SECTION A: INTRODUCTION TO MULTILINGUALISM

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Defining Multilingualism

Jasone Cenoz

This article looks at the definitions and scope of multilingualism and the different perspectives used in its study. Multilingualism is a very common phenomenon that has received much scholarly attention in recent years. Multilingualism is also an interdisciplinary phenomenon that can be studied from both an individual and a societal perspective. In this article, several dimensions of multilingualism are considered, and different types of multilingualism are discussed. The article summarizes the themes researched in various areas of the study of multilingualism such as neurolinguistics, psycholinguistics, linguistics, education, sociolinguistics, and language policy. These areas look at language acquisition and language processing as well as the use of different languages in social contexts and adopt a variety of research methodologies. The last section of the article compares monolingual and holistic perspectives in the study of multilingualism, paying special attention to new approaches developed in the past few years that argue for establishing more fluid boundaries between languages.

Multilingualism is not a recent phenomenon. Multilingual scholars from different parts of Europe were responsible for the translation of Arabic and Greek texts into Latin and the transmission of learning in the Middle Ages. Multilingualism was also present in the first written examples of the Spanish and Basque languages, the *Glosas Emilianenses*. These were notes in Spanish and Basque written in a Latin book at the end of the 11th century. At the societal level, a well-known example is multilingualism in England after the Norman Conquest in 1066. English was the language of the majority of the population, but Norman French was the language of the ruling class, and Latin was the language of record keeping and the Church. An older example of multilingualism is Sumerian-Akkadian in Southern Mesopotamia during the third millennium BCE.

Nowadays, multilingualism is a very common phenomenon all over the world. This is to be expected, considering that there are almost 7,000 languages in the world and about 200 independent countries (Lewis, 2009). It is not only that there are more languages than countries but also that the number of speakers of the different languages is unevenly distributed, meaning that speakers of smaller languages need to speak other languages in their daily life. Multilinguals can be speakers of a minority indigenous language (e.g., Navajo in the United States,

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Maori in New Zealand, or Welsh in the United Kingdom) who need to learn the dominant state language. In other cases, multilinguals are immigrants who speak their first language(s) as well as the language(s) of their host countries. In some cases, languages are learned as they spread internationally, and it is considered that they open doors for better economic and social opportunities. This is currently the case with English, which is the most widespread language and is very common as a school subject and as a language of instruction in schools and universities all over the world (see, e.g., Kirkpatrick & Sussex, 2012).

Several factors have contributed to the current visibility of multilingualism. Among them, globalization, transnational mobility of the population, and the spread of new technologies are highly influential in different political, social, and educational contexts. Aronin and Singleton (2008) compared the features of historical and contemporary multilingualism and reported seven distinctions. These distinctions can be clustered into three main areas:

- Geographical: In comparison with the past, multilingualism is not limited to geographically close languages or to specific border areas or trade routes. It is a more global phenomenon spread over different parts of the world.
- Social: Multilingualism is no longer associated with specific social strata, professions, or rituals. It is increasingly spread across different social classes, professions, and sociocultural activities.
- Medium: In the past, multilingual communication was often limited to writing, and mail was slow. In the 21st century, because of the Internet, multilingual communication is multimodal and instantaneous.

Globalization has increased the value of multilingualism. Speaking different languages has an added value. As Edwards (2004) pointed out, speaking English can be necessary, "but the ability to speak other languages none the less ensures a competitive edge" (p. 164). This need for other languages is obvious if we consider that English is the most widely used language on the Internet, but the percentage of Internet users of English has decreased from 51.3% in 2000 to 26.8% in 2011. The percentage for the second most used language in 2011, Chinese, was 24.2%, and for the third, Spanish, 7.8% (Internet World Stats, 2011), but many other languages are used as well.

Given its growing importance in modern society, multilingualism has attracted increasing attention in applied linguistics as it can be seen in the titles of journals, articles, books, and academic conferences that use the term *multilingualism*. At the same time, within applied linguistics, the study of multilingualism has been approached from different perspectives, as will be seen in the next sections.

TOWARDS A DEFINITION OF MULTILINGUALISM

Multilingualism is a complex phenomenon that can be studied from different perspectives in disciplines such as linguistics, psycholinguistics, sociolinguistics,

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and education. There are many definitions of multilingualism. For example, Li (2008) defined a multilingual individual as "anyone who can communicate in more than one language, be it active (through speaking and writing) or passive (through listening and reading" (p. 4). A well-known definition of multilingualism is given by the European Commission (2007): "the ability of societies, institutions, groups and individuals to engage, on a regular basis, with more than one language in their day-to-day lives" (p. 6). These definitions of multilingualism are relevant for discussing some of its dimensions: the individual versus social dimension, the proficiency versus use dimension, and the bilingualism versus multilingualism dimension.

The Individual Versus Social Dimension of Multilingualism

Multilingualism is at the same time an individual and a social phenomenon. It can be considered as an ability of an individual, or it can refer to the use of languages in society. Individual and societal multilingualism are not completely separated. It is more likely that the individuals who live in a multilingual community speak more than one language than for individuals who live in a monolingual society. Traditionally, there have been more multilinguals in areas where regional or minority languages are spoken or in border areas. However, the intense spread of English as a lingua franca and the mobility of the population to urban areas across nations have resulted in other situations as well. Today, it is possible to find many individuals who have learned English and live in traditionally monolingual areas. It is also possible to find many monolingual speakers in big cities in Europe or North America where there is a very high level of linguistic diversity as a result of immigration, particularly in contexts in which English is the majority language.

Individual multilingualism is sometimes referred to as plurilingualism. The Council of Europe (n.d.) website defines *plurilingualism* as the "repertoire of varieties of language which many individuals use" so that "some individuals are monolingual and some are plurilingual." In contrast, *multilingualism* is understood as "the presence in a geographical area, large or small, of more than one 'variety of language'. . .; in such an area individuals may be monolingual, speaking only their own variety." This distinction is the same as the most widely used distinction between individual and societal multilingualism. However, *plurilingualism* was also used by Moore and Gajo (2009) to highlight "the focus on the individual as the locus and actor of contact" (p. 138) in a holistic view of multilingualism, as we will see later.

Within individual multilingualism, there can be important differences in the experience of acquiring and using languages. An individual can acquire the different languages simultaneously by being exposed to two or more languages from birth or successively by being exposed to second or additional languages later in life. These experiences are related to the different possibilities in the organization of bilingual memory and the distinctions between compound, coordinate and subordinate multilinguals (see also De Groot, 2011).

At the societal level, there is an important distinction between additive and subtractive multilingualism. In the case of additive multilingualism, a language

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is added to the linguistic repertoire of the speaker while the first language continues to be developed. In contrast, subtractive multilingualism refers to situations in which a new language is learned and replaces the first language. Additive multilingualism is more likely to happen when speakers of a majority language acquire other languages; subtractive multilingualism can often be found when immigrant schoolchildren are required to shift to the language of the host country without being given the opportunity to develop their own language. A related issue is the difference between being multilingual in demographically strong languages with a high status and weaker languages (Kramsch, 2010).

The Proficiency Versus Use Dimension of Multilingualism

The definitions given above refer to the individual or societal ability to communicate in more than one language, but the definition of the European Commission also refers to the use of the languages in everyday life. The focus on ability or use depends on the perspective of analysis of the broad phenomenon of multilingualism and is also related to the individual and societal dimension. Scholars interested in individual multilingualism often consider the level of proficiency in the different languages. As Bassetti and Cook (2011) pointed out, most definitions cluster in two groups: One considers maximal proficiency to be necessary, while the other accepts minimal proficiency. Baker (2011) considered that a maximalist definition requiring native control of two languages is too extreme, but that a minimalist definition that considers incipient bilingualism with minimal competence to be considered bilingual is also problematic.

A related issue is the distinction between balanced and unbalanced multilingualism. A balanced multilingual is equally fluent in two or more languages, and an unbalanced multilingual has different levels of proficiency in the different languages. Today, the idea of perfect mastery and perfect balance of two or more languages is no longer considered a requirement to be bilingual or multilingual (Skutnabb-Kangas & McCarty, 2008).

The use dimension of multilingualism is often considered as the main characteristic when defining multilingual individuals. For example, Lüdi and Py (2009) referred to "each individual currently practising two (or more) languages, and able, where necessary, to switch from one language to the other without major difficulty, is bilingual (or plurilingual)" (p. 158). Grosjean (2010) also highlighted the use of two or more languages in everyday life as the main characteristic.

A distinction that brings together proficiency and use is that of receptive versus productive multilingualism. Receptive multilingualism "refers to the constellation in which interlocutors use their respective mother tongue while speaking to each other" (Zeevaert & Ten Thije, 2007, p. 1). Receptive multilingualism has a strong tradition in Scandinavia, where speakers of languages such as Swedish, Danish, or Norwegian use their respective first languages when communicating with each other because they can understand the languages used by their interlocutors.

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The Bilingualism Versus Multilingualism Dimension

The term *multilingualism* has gained currency in recent years at the expense of *bilingualism*, but the difference between the two terms is not always clear, and different positions can be found:

- *Bilingualism* as the generic term. This is the traditional position that reflects the importance of research involving two languages rather than additional languages. Bilingualism generally refers to two languages but can include more languages (Cook & Bassetti, 2011).
- *Multilingualism* as the generic term. This can be regarded as the mainstream position nowadays. Multilingualism is often used to refer to two or more languages (Aronin & Singleton, 2008). Bilingualism or trilingualism are instances of multilingualism.
- *Bilingualism* and *multilingualism* as different terms. Some researchers use the term *bilingual* for users of two languages and *multilingual* for three or more (De Groot, 2011). This position is also common among scholars working on third language acquisition and trilingualism (Kemp, 2009).

In this article we use multilingualism as a generic term including bilingualism.

RESEARCH THEMES IN THE STUDY OF MULTILINGUALISM

Research on multilingualism has had an important boost recently and has been approached from different perspectives in applied linguistics. At the individual level some of the most relevant areas are the following: the cognitive outcomes of multilingualism, the relationship between language and thought in multilinguals, multilingual language processing, the multilingual brain, and cross-linguistic interaction. At the societal level, multilingualism has been examined as related to globalization, mobility of the population, and the effect of new communication techniques. Some of the most relevant areas are the following: multilingualism as a social construct, multilingual identities, multilingual practices and multilingualism, multimodality, and new technologies.

Cognitive Outcomes of Multilingualism

The effect of multilingualism on cognition has a long tradition particularly in educational contexts, but in the past few years more attention has been paid to the relationship between the knowledge of two or more languages and the specific aspects of cognition. For example, some studies have focused on the differences between monolinguals and multilinguals in selective attention and inhibitory control (Bialystok, Craik, Klein, & Viswanathan, 2004; Bialystok, Craik, & Luk, 2008). These studies look at some features of language processing in two languages and do not analyze the way multilingual speakers communicate in everyday life. The results indicate that multilinguals of different ages develop

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resources that allow them to perform better on some metalinguistic tasks and can even slow down some aspects of the cognitive decline associated with aging.

The Relationship Between Language and Thought in Multilinguals

There are an increasing number of research studies on the relationship between multilingualism and conceptualization. Some scholars consider that multilinguals and monolinguals have a conceptual base that is identical (see, e.g., De Bot, 2008), while others think that the differences are not only quantitative but also qualitative (Kecskes, 2010). The volume edited by Pavlenko (2011) explores the way the acquisition of additional languages is related to conceptual development and restructuring and reports interesting findings on areas such as visual perception, inner speech, and gesturing (see also Cook & Bassetti, 2011; Jarvis & Pavlenko, 2008).

Multilingual Language Processing

The mechanisms involved in comprehension and production in two or more languages have been examined as related to phonetics, lexis, and grammar. The area that has received more attention in recent years is the multilingual lexicon. Research studies have tried to test if all the languages of a multilingual are activated and compete against each other in language processing as well as the factors influencing the activation (see Dijkstra, 2009) and have also looked at mental representations of the multilingual lexicon (Pavlenko, 2009).

The Multilingual Brain

The use of neuroimaging techniques (MRI, fMRI, PET) and methods to analyze the electrical activity of the brain (ERP, EEG) has opened new possibilities in the study of multilingualism. They give the opportunity to relate language processing to different parts of the brain and to explore some characteristics of bilingual processing. Even though much more research is needed, there is already some indication that the dorsolateral prefrontal cortex (DLPFC), the anterior cingulate cortex (ACC), and the caudate are the areas where bilingual language control is regulated both for comprehension and production tasks (De Groot, 2011). These techniques provide the opportunity to analyze different aspects of bilingual processing with more accuracy and from different angles, but more research is needed to confirm the exploratory results.

Cross-Linguistic Interaction

The study of different forms of cross-linguistic interaction, including code switching and code-mixing, has a long tradition in research on multilingualism. Recent trends in the study of code-switching look at it critically and as related to the negotiation of identities (Gardner-Choros, 2009; Lin & Li, 2012). Studies on third language acquisition have reported the multidirectionality of cross-linguistic interaction and indicate that there could be closer links between

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languages other than the first and also between languages that are typologically related (see, e.g., De Angelis, 2007). Cross-linguistic interaction has also been examined when looking at the early acquisition of two or more languages (Paradis, 2007).

Multilingual Individuals

The focus on the multilingual individual rather than on the languages spoken by the multilingual individual has resulted in interesting insights about the characteristics of language learning and language use by multilinguals (Kramsch, 2010; Todeva & Cenoz, 2009). A related aspect is the study of emotions and their dynamics (Dewaele, 2010; Pavlenko, 2005). Apart from questionnaires and interviews, memoirs and online data have also contributed to research in this area.

Multilingualism as a Social Construct

The work of the French sociologist Bourdieu (1991) has been extremely influential in the development of poststructuralist critical approaches to the study of multilingualism. Bourdieu viewed linguistic practices as a form of symbolic capital. Language varieties that are legitimated by the social groups in power are more valuable forms of symbolic capital. Institutions and particularly education are crucial to reproduce legitimacy. Bourdieu's theories have stimulated research that critically analyzes discourse practices so as to identify the sociopolitical implications of the use of different languages. Research in this area has proved that the use of linguistic resources can be constrained by institutional ideologies and how linguistic practices represent power relations (Gardner & Martin-Jones, 2012; Heller, 2007). An interesting feature of this line of research is that multilingualism is seen as a socially constructed phenomenon where languages are sets of resources rather than as fixed linguistic systems.

Multilingual Identities

There has also been an important development in the study of identities (Block, 2008; Edwards, 2012; Pavlenko & Blackledge, 2004). A poststructuralist view considers identities as multidimensional, dynamic, and subject to negotiation. An interesting development is the analysis of code-switching and translanguaging as related to the development of identities (Creese & Blackledge, 2010; García, 2009). The choice of one or another language is not only dependent on the availability of the linguistic resources the multilingual individual has at his or her disposal, but at the same time an act of identity.

Multilingual Practices

A related development of multilingualism at the societal level has been the study of language practices in different contexts. For example, Canagarajah and Liyanage (2012) highlighted the importance of language practices in pre-colonial

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and post-colonial non-Western contexts for the study of multilingualism. The study of multilingual practices in urban contexts had already given interesting insights about crossing language boundaries in the 1990s (Rampton, 1995) and has been expanded in recent years (Block, 2008; Byrd Clark, 2009; Jørgensen, 2008).

Multilingualism, Multimodality, and New Technologies

The development of multimedia technology, communication channels, and media has encouraged multimodal literacy, which is based on the affordances provided by gesture, sound, visuals, and other semiotic symbols including but not limited to language (Lytra, 2012; Shohamy & Gorter, 2009).

ATOMISTIC AND HOLISTIC VIEWS OF MULTILINGUALISM

As we have already seen, the study of multilingualism has gone in different directions. In this section we will discuss the trend towards holistic rather than atomistic views in recent years. According to the *Oxford Dictionaries*, the term *holistic* can be understood as "the belief that the parts of something are intimately interconnected and explicable only by reference to the whole" and can be opposed to *atomistic*, which "regards something as interpretable through analysis into distinct, separable, and independent elementary components" (http://oxforddictionaries.com/). The study of multilingualism, particularly in linguistics and psycholinguistics, has traditionally focused on the analysis of specific elements rather than on the relationship among these elements. Atomistic research on multilingualism usually looks at one specific feature of syntax, phonetics, or lexis in the development and acquisition of one language. For example, the focus can be on the acquisition of wh-questions or weak vowels in English, or the subjunctive in Spanish. As Li (2011) pointed out, the idea is to look at "one language only" or "one language at a time" (p. 374) even if proficiency in two or three languages is analyzed. The atomistic view, which is the most widespread view adopted in multilingualism studies, is characterized by focusing on specific elements and separating the languages. Code-mixing and code-switching are often seen as problematic because they indicate lack of competence. Atomistic views of multilingualism consider languages as discrete, fixed, and independent entities and imply that multilinguals are expected to be like two or more monolinguals.

Atomistic views of multilingualism are widespread and generally accepted, but they have also been contested since the late 1980s. Grosjean (1985), using a holistic view of bilingualism, considered that bilinguals are fully competent speaker-hearers who have a unique linguistic profile. Cook (1992), also adopting a holistic view, proposed the term *multicompetence* as a complex type of competence, which is qualitatively different from the competence of monolingual speakers of a language. Cook considered that the knowledge multilingual speakers have of their language is different from that of monolingual speakers because acquiring a second language can have an effect on the first language

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(Cook, 2003). These ideas are widely used in theoretical and empirical work on multilingualism (Cenoz & Gorter, 2011; Jessner, 2008).

The trend towards a holistic view of multilingualism has spread in different directions in recent years. In this section I will use the elements of the focus on multilingualism (Cenoz & Gorter, 2011) to discuss the main contributions. This approach for teaching and research in multilingual education relates the way multilingual students (and multilingual speakers in general) use their communicative resources in spontaneous conversation to the way languages are learned and taught at school. It analyzes the gap between the traditional focus on one language at a time in research on multilingualism and multilingualism in real life communication involving all the languages and multilingual discursive practices. It explores the possibility of establishing bridges that can link these two realities so that multilingual students can use their own resources to a larger extent in formal education. *Focus on multilingualism* has three dimensions: the multilingual speaker, the whole linguistic repertoire, and the social context. In this section I will use the three dimensions of focus on multilingualism as a framework to discuss holistic views of multilingualism without limiting it to educational contexts.

The Multilingual Speaker

The holistic view of multilingualism highlights the characteristics of multilingual speakers as different from those of monolingual speakers. Multilingual speakers use the languages at their disposal as a resource in communication, and as their repertoire is wider, they usually have more resources available than monolingual speakers. As Block (2007) suggested, multilinguals do not seem to be semilingual, but rather hyperlingual. Research on third language acquisition has indicated that bilinguals can also use these resources to learn additional languages (Cenoz, 2009).

At the same time, it is important to take into consideration that multilingual speakers use different languages, either in isolation or mixed, according to their communicative needs and their interlocutors. While monolingual speakers use one single language in all situations, multilingual speakers navigate among languages and do not use each of their languages for the same purposes in all communicative situations, in the same domains, or with the same people (Moore & Gajo, 2009). A multilingual person may read the newspaper in one language but a technical report in another language. The same multilingual person may chat on the Internet in two languages depending on their interlocutors but watch movies in only one of those languages. Grosjean (2010) said that it is a myth to believe that bilinguals have exactly the same equal and perfect knowledge of two languages. In fact, this is even more the case if three or more languages are involved.

In spite of these differences between monolinguals and multilinguals, the communicative skills of multilingual speakers have traditionally been measured from a monolingual perspective against the yardstick of the ideal native speaker of each of the languages involved. This monolingual bias in multilingualism research does not take into consideration the characteristics of multilinguals at the

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cognitive level (Cook & Bassetti, 2011; Kecskes, 2010; Pavlenko, 2011). It does not consider either that multilinguals can use their languages as a resource so that the languages reinforce one another or the way multilingual speakers navigate between languages in real communication. As Cruz-Ferreira (2010) pointed out, the monolingual norm has focused on languages and on native speakers using monolingual norms so as to see how they differ from language learners who have been considered deficient. A holistic approach to multilingualism does not look at each ideal native speaker of each of the languages, but at the multilingual person as a whole. The holistic view of multilingualism focusing on the multilingual speaker is sometimes referred to as *plurilingualism* (Canagarajah & Liyanage, 2012; Moore & Gajo, 2009).

Another important dimension of holistic views of multilingualism is that the development of multilingual competence is dynamic and involves changes in language acquisition and language use (Jessner, 2008). The exposure multilingual speakers have to the languages in their repertoire is not fixed, and their multicompetence is also variable. In fact, the proficiency of monolingual speakers is also dynamic, but the dynamics can be seen more clearly in the case of multilingual speakers.

The Whole Linguistic Repertoire

Another dimension of focus on multilingualism is the need to adopt a holistic view of all the languages spoken by multilinguals, rather than focusing on one language at the time. An important point of this view is the boundaries between languages. Atomistic views of multilingualism have focused on specific elements of one language and have considered any type of mixing between languages as an indicator of low proficiency. Languages have been analyzed separately, completely independent of each other. However, when multilingual speakers communicate in real life, they use languages as a resource. The boundaries between their languages are soft. Multilingual speakers, unlike monolinguals, have the possibility of using elements from the different languages at their disposal.

Holistic views of multilingualism pay attention to the way multilingual speakers use their linguistic resources in ways that are different from the way monolingual speakers use of single languages. Multilingual speech is creative and includes instances of language interaction in different directions. There is an increasing number of scholars who reject the idea of languages as discrete bounded entities and consider that the hybridity of multilingual communication can be better explained by focusing on features and resources (Jørgensen, 2008; Rampton & Charalambous, 2012). New terms such as *metrolingualism* (Otsuji & Pennycook, 2009), *heteroglossia* (Bailey, 2012), or *polylingualism* (Jørgensen, 2008) have been proposed in the past few years.

A term that has gained currency lately is *translanguaging* (Creese & Blackledge, 2010; García, 2009; Li, 2010). This term is a translation of the Welsh term *trawsieithu*, which was first used by Williams (2002). Its original meaning referred to the educational practice of using Welsh and English in the classroom so that students read a passage or listened to some information in one language and had

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to develop their work in another language. García (2009) broadened the scope of the term to refer to the process that involves multiple discursive practices and is the norm in multilingual communities.

A holistic view of the linguistic repertoire can also be adopted in multilingual education when several languages are studied as school subjects or languages of instruction. A holistic approach aims at integrating the curricula of the different languages to activate the resources of multilingual speakers. In this way multilingual students could use their resources cross-linguistically and become more efficient language learners than when languages are taught separately. Research that analyzes the written production of multilingual children in two and three languages indicates that general writing strategies transfer cross-linguistically (Cenoz & Gorter, 2011; Soltero-González, Escamilla, & Hopewell, 2012). These findings can have important pedagogical implications because the same strategy does not have to be taught in different languages but only practiced and reinforced once it has been learned in one language.

The Social Context

As we have already seen, sociological, sociolinguistic, and anthropological approaches to the study of multilingualism are widely used. A holistic view of multilingualism focuses on multilingual language use in social contexts and takes into account the interaction between multilingual speakers and the communicative context. Being a competent multilingual implies acquiring skills to be accepted as a member of a community of practice (Kramsch & Whiteside, 2007). While engaging in language practices, multilingual speakers shape this context (see also Canagarajah 2007; Kramsch, 2010). Nowadays, the communicative context is often multimodal and can combine visuals, sound, texts, and other semiotic symbols. A holistic view of multilingualism sees multilingual competence as linked to the social context in which language practices take place. In these contexts, the boundaries between languages and between different semiotic devices are often blurred.

In sum, in the past few years there has been a shift from the strong atomistic perspective that has traditionally focused on the multilingual as the sum of several monolinguals, one language at the time, to holistic perspectives based on the multilingual speaker, the whole linguistic repertoire, and the social context. Even though holistic views of multilingualism have contributed to our understanding of the complex phenomenon of multilingualism, atomistic views can also provide relevant information about some specific linguistic, psycholinguistic, or neurolinguistic aspects of multilingualism.

FINAL REMARKS

Research on multilingualism may be seen as heterogeneous or even disorganized because it is based on different theoretical frameworks and uses a wide range of methodological approaches. However, this is to be expected if we consider that research on multilingualism is studied by experts in linguistics, neurolinguistics,

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sociolinguistics, psycholinguistics, and education, among others. Multilingualism has multiple facets, and researchers in all these areas have different goals when they try to test hypotheses or answer research questions. In this article, we have seen that there are different dimensions, that the focus of research may be on individual or social multilingualism, and that it is possible to adopt an atomistic or a holistic perspective. Multilingualism is also widespread geographically, and multilingual speakers can be found in all parts of the world. At the societal level, multilingualism can often be found at different levels: in the family, at work, and in education. Multilingualism can be developed in early childhood or later on in life, and it can involve a limitless combination of languages.

Research on multilingualism is highly productive, as shown by new proposals, concepts, hypotheses, and findings. The need to improve our knowledge of individual and societal multilingualism is linked to globalization. The intensification of international contacts, the internationalization of the economy, and the mobility of the population have produced more opportunities to conduct research on multilingualism and have also highlighted the importance of this research. Research on multilingualism has also benefitted from technology. Nowadays, it is possible to investigate patterns of brain activation using a wide range of techniques. It is also possible to take a large number of pictures of the linguistic landscape using digital cameras or to analyze online communication among multilinguals. Technology can facilitate data collection and analyses and, at the same time, help to move research forward by providing new insights.

Traditional ways of approaching research in multilingualism have been challenged by holistic approaches in recent years. Both atomistic and holistic views of multilingualism can contribute to our knowledge of multilingualism provided that multilingualism is seen not just as a simple additional of languages but as a phenomenon with its own characteristics.

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Cook, V., & Bassetti, B. (Eds.). (2011). *Language and bilingual cognition*. Oxford, UK: Psychology Press.

This edited book explores the relationship between language and cognition. The volume is divided into three parts: (a) the relationship between language and cognition, (b) bilingual cognition, and (c) applications and implications of bilingual cognition research. The volume explores the relationship between language and cognition in different domains of thinking, including time, space and motion, reason, and

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emotion and sensory perception. This volume can certainly be of great interest for students and researchers.

De Groot, A. M. B. (2011). *Language and cognition in bilinguals and multilinguals: An introduction*. New York, NY: Psychology Press.

This monograph looks at individual multilingualism from a psycholinguistic approach. This substantial, introductory text of more than 500 pages provides an up-to-date account of comprehension, production, and acquisition processes. The volume also discusses the cognitive consequences of multilingualism and neuropsychological aspects of multilingualism. It is a very welcome contribution to studies on multilingualism that can be highly recommended both to students and researchers.

García, O. (2009). Introducing bilingual education. In O. García (Ed.), *Bilingual education in the 21st century: A global perspective* (pp. 3–17). Chichester, UK: Wiley-Blackwell.

This volume presents a holistic approach to the study of multilingual education. The author proposed a new paradigm looking at the complexity and dynamics of multilingual education. This book is highly recommended for all those interested in multilingual education and multiple discursive practices in school contexts. The book contains 15 chapters and covers a range of topics: translanguaging, educational policies, assessment, education practices, and multiliteracy.

Li, W., & Moyer, M. (Eds.). (2008). The Blackwell handbook of research methods on bilingualism and multilingualism (pp. 3–17). Oxford, UK: Blackwell.

This edited volume contains 22 chapters and specifically addresses methodological issues when conducting research on multilingualism. It provides a theoretical background of research in bilingualism, but the main focus is on procedures, methods, and tools. The last part of the volume provides ideas for projects and dissemination and provides sources on multilingualism. It is an excellent multidisciplinary guide for students and new researchers in multilingualism.

Martin-Jones, M., Blackledge, A., & Creese, A. (Eds.). (2012). *The Routledge handbook of multilingualism*. London, UK: Routledge.

This edited volume contains 32 chapters and focuses on sociolinguistic and ethnographic research in multilingualism. It looks at discourses about multilingualism in social, cultural, and political contexts; multilingualism in education; multilingualism in other institutional sites; multilingualism in social and cultural change; and multilingual practices. It is an outstanding contribution to the study of societal multilingualism.

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