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Linguistic Landscapes in a Multilingual World

Durk Gorter

This article offers an overview of the main developments in the field of linguistic landscape studies. A large number of research projects and publications indicate an increasing interest in applied linguistics in the use of written texts in urban spaces, especially in bilingual and multilingual settings. The article looks into some of the pioneer studies that helped open up this line of research and summarizes some of the studies that created the springboard for its rapid expansion in recent years. The focus is on current research (from 2007 onward), including studies that illustrate main theoretical approaches and methodological development as key issues of the expanding field, in particular when applied in settings of societal multilingualism.

Publications on the linguistic landscape cover a wide range of innovative theoretical and empirical studies that deal with issues related to multilingualism, literacy, multimodality, language policy, linguistic diversity, and minority languages, among others. The article shows some examples of the use of the linguistic landscape as a research tool and a data source to address a number of issues in multilingualism. The article also explores some possible future directions. Overall, the various emerging perspectives in linguistic landscape research can deepen our understanding of languages in urban spaces, language users, and societal multilingualism in general.

PANORAMA OF THE FIELD

Language learning is the main product of the Rosetta Stone company. Its kiosks can be found in shopping malls and at airports across the United States, and its offices are all over the world. Through its display of the brand name, slogans, and advertisements, the company contributes to the construction of the linguistic landscape, similar to numerous companies, shops, government agencies, private associations, and individuals. The linguistic landscape refers to any display of visible written language. The signs are part of the textual decor that surrounds us every day, as we walk, ride, or drive through urban environments. One wonders, however, if passers-by are more than vaguely aware of the history of the Rosetta stone and its importance in the decipherment of hieroglyphs in 1822. The original text on the stone, now in the British Museum in London, is given in two languages and three scripts: Egyptian hieroglyphics on top, the

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demotic variety of Greek in the middle, and a more modern Greek alphabet at the bottom. Coulmas (2009) observed that "the Rosetta Stone embodies many of the intricacies of language contact, language choice, and linguistic hierarchy that form the substance of linguistic landscape research" (p. 18). In antiquity the linguistic landscape was already multilingual in some places, but today, due to globalization, a pure monolingual linguistic landscape is a rarity, if only because of the spread of English in non-English-speaking countries and the spread of foreign brand names, shop names, and slogans in monolingual English-speaking countries.

Landry and Bourhis (1997) referred to the linguistic landscape as "the visibility and salience of languages on public and commercial signs" (p. 23). They have also provided the most widely quoted definition in the literature:

> The language of public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings combines to form the linguistic landscape of a given territory, region, or urban agglomeration. (Landry & Bourhis, 1997, p. 25)

This definition captures well the object of linguistic landscape studies. However, it only lists six types of signs, whereas the number of different signs and the variation in types is much wider. For example, recent technological developments have added many new types of signs: electronic flat-panel displays, LED neon lights, foam boards, electronic message centers, interactive touch screens, inflatable signage, and scrolling banners. The use of language in its written form in the public space is the main focus of linguistic landscape studies (Gorter, 2006). Several other phrases are used by different authors to refer to the linguistic landscape, such as "the decorum of the public life" (Ben-Rafael, Shohamy, Amara, & Trumper-Hecht, 2006, p. 10), "the linguistic items found in the public space" (Shohamy, 2006, p. 110), "environmental print" (Huebner, 2006, p. 31), "The Words on the Walls" (Calvet, 1990), and *The Word on the Street* (Foust & Fuggle, 2011). Although I will keep the generally accepted designation *linguistic landscape*, the alternative concept of *multilingual cityscape* might be more precise, because, as we will see, the interest of most researchers is with the use of more than one language in urban settings. On the other hand, in the literature, the concept of linguistic landscapes is also used with a completely different meaning, such as the general language situation or linguistic diversity (Gorter, 2006).

The study of linguistic landscapes aims to add another view to our knowledge about societal multilingualism by focusing on language choices, hierarchies of languages, contact-phenomena, regulations, and aspects of literacy. Linguistic landscapes are, of course, important in monolingual contexts (if those in a strict sense still exist), but studies of linguistic landscapes can be more revealing when they deal with multilingualism, variation, and the conflict and contact of languages. The linguistic landscape is a multifaceted phenomenon, and its study is related to a multitude of perspectives and disciplines. Most research studies approach the linguistic landscape from applied linguistics or sociolinguistics, including a language policy perspective. Other disciplinary backgrounds of

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researchers include advertising, education, economics, history, media, semiotics, sociology, and urban geography. Many linguistic landscape studies are confined to one specific geographic area, which often is a city, but could also be a street, a neighborhood, or even a whole country, or it could be a comparison between more than one of these levels of analysis.

The aim of this overview is threefold. This first section offers a "Panorama of the Field"; in the next subsection on "Pioneering Studies", I look at some studies that focused on the linguistic landscape, but did not yet use the term as such. The subsection ends with the seminal study by Landry and Bourhis (1997), who gave their widely quoted definition to the field. In the "Early Adopters" subsection I show how some researchers changed the emphasis of the field. The real growth of linguistic landscape studies is more recent, and in the second section on "Current Research" I synthesize the research since 2007. In a subsection "Theoretical Approaches" I demonstrate the contribution of diverse studies to our understanding of multilingualism. In the subsection "Methodological Developments" I show that even though widely varying in theme and scope, they all share a focus on the written languages of public space. The final section "Outlook: Moving Forward" I sketch some possible future developments.

Pioneering Studies

Rosenbaum, Nadel, Cooper, and Fishman (1977) wanted to investigate language use in Jerusalem, so they carried out interviews and planted encounters and transactions in one street, Keren Kayemet Street. In their article, they included an analysis of the languages and scripts on the signs. Their analysis of the languages on signs was limited to the use of Roman (almost all in English) and Hebrew scripts. They found that the Roman script is more common on bottom-up than on top-down signs. It demonstrated a difference between the official language policy that supports Hebrew-only signs and the use of mainly English in commercial signs. For Rosenbaum et al. (1977) the prevalence of English can be explained by what they called "snob appeal" (p. 151). Many later studies about the spread of English as a global language also refer to a similar prestige factor.

Another pioneer study took place in Brussels. Tulp (1978) focused on the distribution of Dutch and French on billboards, and found that the image of the streets was not bilingual, but predominantly French, with only limited space for Dutch (Tulp, 1978). In a later study Monnier (1989) reported on the importance of legal arrangements in the province of Québec, Canada, which require the use of French in the public domain and which go against the use of English on shop fronts. Calvet (1990) distinguished between different ways to mark the territory by the authorities on the one hand and by the citizens on the other. Calvet compared the words on the walls in the urban spaces of Dakar and Paris and found that the signs inform us about the multilingualism of these cities, but the authorities do not take multilingualism into account. In Paris the languages are kept separate and never mix, whereas in Dakar they coexist and interact on the same signs.

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In their investigation of the language of Jerusalem, Spolsky and Cooper (1991) discussed in detail a pair of street signs in the old part of the city. Their analysis provides an interesting early example of the application of an historical perspective in linguistic landscape studies (the example is also discussed by Backhaus [2007], Calvet [2006], and Spolsky [2009a, 2009b]). Each street sign consists of nine tiles and is written in three languages. In both signs the Hebrew and Arabic are identical, but on one side, the transliteration into English reads *Ha-Malakh RD* and on the other *El-Malak RD.* The first sign is transliterated from Hebrew, and the second from Arabic. The signs differ further because the first sign consists of nine tiles within a single frame, and the texts are each written over three tiles. In the second sign the lower six tiles are together, but the top three tiles with the street name in Hebrew had evidently been added later. The explanation seems to be that the original sign in Arabic and English was put up during the Jordanian occupation of the Old City of Jerusalem from 1948 to 1967. Then in 1967, the Old City came under Israeli rule, and the Hebrew line was added to the sign. Placing Hebrew on top demonstrates the Israeli rule and dominance of Hebrew. The example illustrates the possibility of linguistic landscapes studies for clarifying the social changes in the relationships between languages in a community.

The definition by Landry and Bourhis (1997) contains the seeds of the development of the field of linguistic landscape, even though the authors did not study the textual information of the signs in the public space per se. Using the theoretical framework of (subjective) ethnolinguistic vitality, Landry and Bourhis included in their questionnaire the experience of the linguistic landscape by a group of francophone secondary education students in Québec. They concluded that "the linguistic landscape is a sociolinguistic factor distinct from other types of language contacts in multilingual settings," and the linguistic landscape "may constitute the most salient marker of perceived in-group versus out-group vitality" (Landry & Bourhis, p. 45). The results of their study also suggest a carryover effect of the linguistic landscape on language behavior.

Early Adopters

In the years immediately following the Landry and Bourhis (1997) article, only a few publications on linguistic landscape appeared. The journal *English Today* published a few articles that contain inventories that aim to describe the use of English in shop signs in different European cities. McArthur (2000) looked at English in shop signs in Zurich (Switzerland) and Uppsala (Sweden). These examples inspired Schlick (2002) to compare those two cities to Klagenfurt (Austria), Udine (Italy), and Ljubljana (Slovenia). Although Schlick's samples are rather small (80 signs per city at most), the outcomes showed that the local language was dominant in each city (over 60% of the signs). English has an important presence in the shop signs as well, although the percentages vary. In a follow-up study, Schlick (2003) compared the capitals and one provincial town of four countries (Austria, Great Britain, Italy, and Slovenia). Schlick did not observe large differences among those, but found again a good deal of English on the shop signs. *English Today* did continue to publish similar studies of English on shop signs in different countries (Dimova, 2007; Griffin, 2001, 2004; MacGregor, 2003;

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Stewart & Fawcett, 2004). Because of their descriptive characteristics, these articles have limited value for the study of multilingualism; they only look into the use of English and do not examine the relationships among different languages.

Linguistic landscaping has also been studied in the context of multilingual India. Dasgupta (2002) provided a theoretical perspective on linguistic landscaping as an intentional activity. For Dasgupta, a linguistic landscape was not fully predetermined or static, because other actors can introduce new unknown designs. For Singh (2002), linguistic landscaping is part of language planning, acting as an organized intervention that adds to the functionality of a language, similar to developing a script or reforming a spelling. Both Dasgupta and Singh pointed to the importance of actors who are actively shaping the linguistic landscape, hence their preference for using the term *linguistic landscaping* as a verb.

Other studies of linguistic landscapes discussed diverging issues and seem unrelated. For example, Hult (2003) carried out an explorative study of the relationships between English and Swedish in society. Hult applied an ecology of language perspective (Haugen, 1972) to a study of shopping streets of two Swedish towns and found a prominent presence of English on storefronts and signs in a complex relationship to Swedish. As part of a larger study of language contact in urban neighborhoods, Collins and Slembrouck (2004) wanted to analyze variable ways of perceiving, reading, and construing multilingual shop signs posted by immigrants in Ghent, Belgium. They found differences between locals and immigrants in the readings and interpretations of the signage. Reh (2004) was interested in multilingual writing and thus examined signs in the Lira Municipality in Uganda. Reh gave special attention to the amount of information in each language in bilingual signs and their intended readership, and developed a model of combinations of languages and information in the text on signs that was useful for later studies (e.g., Backhaus, 2007; Edelman, 2009; Huebner, 2009). Hicks (2002) was one of the first authors to use the concept of linguistic landscape directly from Landry and Bourhis (1997), focusing on the policy around Scottish Gaelic signage and the problems of policy implementation for this minority language.

The linguistic landscape field got a theoretical push through the monograph of Scollon and Scollon-Wong (2003). They argued that we can only interpret the meaning of public signs by considering their placement in a social and cultural context. Scollon and Scollon-Wong called their approach *geosemiotics*, which they defined as "the study of social meaning of the material placement of signs and discourses and of our actions in the material world" (p. 2). Meaning is taken from how and where signs are placed, based on general principles of layout. For Scollon and Scollon-Wong, the languages on a sign can index the community in which they are used (*geopolitical location*), or they can symbolize an aspect of the product that is not related to the place where it is located (*sociocultural associations*). Thus, a sign in English may not index an English-speaking community, but can be used to symbolize foreign taste and manners. Their work is theoretically rich, and it demonstrates that the field of linguistic landscape studies does not have sharply demarcated disciplinary boundaries.

Backhaus (2007) published the first comprehensive monograph entirely centered on the linguistic landscape. It is an important work because it provided a detailed review of previous research in the new field of linguistic landscape,

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and at the same time it presented an elaborate case study about the linguistic landscape in Tokyo, a major world city. Backhaus also furnished a general framework that distinguished among the source or origin of a sign, the reader of a sign, and the dynamics of the languages and scripts in contact. Backhaus's research was based on a large empirical database of multilingual signs and revealed a multilingual reality of Tokyo that was not as linguistically homogeneous as was previously thought. Backhaus also described in detail the increasing importance of English as well as other languages, thereby demonstrating that this field is a valuable development in the analysis of multilingualism. He contributed further to the field through publications on the diachronic study of the linguistic landscape (Backhaus, 2005), on the distinction between official and nonofficial multilingual signs (Backhaus, 2006), a summary of his major outcomes in a wider context of multilingualism (Backhaus, 2008), and a comparison between language policy in Tokyo and Montreal (Backhaus, 2009).

Further direction to the field was given in a special issue on linguistic landscapes of the *International Journal of Multilingualism*, in which four studies were reported. Ben-Rafael et al. (2006) focused on the degree of visibility on private and public signs of the three major languages (Hebrew, Arabic, and English) in Israeli cities. Taken together, the linguistic landscape is not a true reflection of the diversity of Israel's languages. In this perspective they referred to the linguistic landscape as the symbolic construction of the public space.

Huebner (2006) examined questions of language mixing and language dominance in a study of Bangkok, Thailand. This study made visible the linguistic diversity of the linguistic landscape in this large metropolitan area. Huebner also provided a linguistic framework for the analysis of different types of code mixing, where English as a global language turned out to have an important influence. This study offered evidence of a shift from Chinese to English as the major language of wider communication in the city, and the data raise questions about the consequences of the spread of English in the linguistic landscape.

Backhaus (2006) focused on the distinction between official and nonofficial multilingual signs in Tokyo, Japan. The two types of signs show different characteristics with regard to the languages used and how they are arranged on the signs. Backhaus used the notions of power and solidarity to interpret the differences and explicitly established links between his investigation of the linguistic landscape of Tokyo and the increasing number of linguistic landscape studies around the world.

Cenoz and Gorter (2006) compared the linguistic landscape in Friesland (the Netherlands) and the Basque Country (Spain). They examined the use of the minority language (Basque or Frisian), the state language (Spanish or Dutch), and English as an international language. In their approach the quantitative data of the language signs were analyzed to determine the number of languages used, which languages were on the signs, and the characteristics of bilingual and multilingual signs. They found that the language policy regarding minority languages was reflected in the linguistic landscape, but there were important differences between both regions.

These studies provided examples for other researchers, as demonstrated by frequent quotations of the articles. Together with the Backhaus (2007)

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monograph, these articles moved the field further along and created a springboard for the rapid expansion in later years.

CURRENT RESEARCH

Although the boundaries of the field of linguistic landscape studies cannot be drawn precisely, in accord with the definitions offered in the introduction, the field can be delimited by emphasizing studies that have as the main focal point the analysis of language(s) displayed on signs in public space. Backhaus (2007) discussed a chronological overview of publications from the 1970s to 2006. He listed 10 publications before 1998 and another 20 from 1998 to 2006. Troyer (2012) presented an updated bibliography of linguistic landscape publications in English, although also including some media and advertising publications. In Troyer's list of 168 publications, only 12 appeared before 1998, another 40 between 1998 and 2006, and no less than 116 since 2007. These figures are a clear demonstration of the rapid growth of the field.

An expanding group of researchers from applied linguistics, sociolinguistics, language policy, and other disciplinary backgrounds are fascinated by the use of languages on the signs, mainly in multilingual urban contexts. New researchers have been attracted to the field by special panels and colloquia at important international conferences. Those colloquia also resulted in the publication of edited volumes (Gorter, Marten, & Van Mensel, 2012; Jaworski & Thurlow, 2010; Shohamy & Gorter, 2009). In January 2008 a series of Linguistic Landscape Workshops started in Tel Aviv, which were continued in Siena in 2009, Strasbourg in 2010, Addis Ababa in 2012, and Namur in 2013. These workshops attract researchers who share an interest in contributing to the study of multilingualism in urban contexts. The workshops have resulted thus far in two edited books (Hélot, Barni, Janssens, & Bagna, 2012; Shohamy, Ben-Rafael, & Barni, 2010). Several articles appeared in widely dispersed journals, as well as in chapters of edited volumes. All these developments contribute to a more solid infrastructure in the field, although it does not (yet) have its own associations or journals. The directions the field takes can be illuminated through a discussion of theoretical approaches and methodological developments.

Theoretical Approaches

Scholars from Israel are important to the field of linguistic landscape, in particular its theoretical development. Spolsky and Cooper (1991), in their study of the languages of Jerusalem, tried to build a theory of language choice on signs from a literacy perspective. They proposed a preference model based on Jackendoff (1983) with three conditions: (a) sign writer's skill, writing a sign in a language you know; (b) presumed reader, writing a sign in the language that can be read by the public, and (c) symbolic value, writing in your own language or the language you want to be identified with. These three conditions apply to all signs, but their significance in the preference of one language or another may vary from sign to sign. Spolsky (2009a) put the model in a wider context than

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linguistic landscape and included it in the theory of language policy (Spolsky, 2009b). Importantly, Spolsky connected the study of public multilingual signage to the language policy theory. Linguistic landscapes belong to the component of language practices, one of the three components of Spolsky's theory, which also includes beliefs about language and language management, the latter referring to the explicit efforts by some authority to modify practices or beliefs.

As mentioned before, Ben-Rafael, Shohamy, Amara, and Trumper-Hecht (1998, 2006) wanted to investigate the degree of visibility on signs of Hebrew, Arabic, and English. Their theoretical ideas are based on four sociological structuration principles. The first principle is the presentation of self, following the work of American sociologist Erving Goffman (1963), given that signs compete with each other to become attractive to different actors because of their uniqueness. The second is the good-reasons perspective that anticipates clients' cost-and-benefit considerations, involving instrumental and rational calculation of alternatives in their behavior. The third principle considers signs as collective-identity markers of groups. Signs illustrate forms of multiculturalism because they may be designed to assert a commitment to the identities of the actors, that is, who they are. Fourth, the power relations perspective goes back to theories of French sociologist Pierre Bourdieu (1991). It helps to explain the linguistic landscape in terms of dominant and subordinate groups. Taken together, the linguistic landscape is seen under these principles as the symbolic construction of the public space (Ben-Rafael et al., 2006; Ben-Rafael, Shohamy, & Barni, 2010).

Shohamy (2006) continued in this line of reasoning and referred to the linguistic landscape as a public arena where language battles are taking place and where the choice of languages can establish domination of space. Linguistic landscape items are mechanisms of language policy that can perpetuate ideologies and the status of certain languages and not others. Shohamy referred to the contestation over language in public space. A clear example of such contestation is the painting over of signs or parts of signs in a so-called wrong language, an activity well known among certain minority language groups (Gorter, Aiestaran, & Cenoz, 2012). Puzey (2011) gave an extreme example of a sign in Norway that literally got shot at because it contained the wrong language. In another publication Shohamy and Waksman (2009, p. 313) asked the fundamental question, "What can be considered linguistic landscape?" They opted for a somewhat radical view of linguistic landscape as an ecological arena that goes beyond written texts of signs and includes oral language, images, objects, placement in time and space, and also people. They posit fluid and fuzzy borders to include all possible texts that emerge in public spaces. Various theories of multimodality and multilingualism, discourse analysis, and genres are applied to interpret the all-inclusive linguistic landscape texts. Public space is not neutral but a negotiated and contested arena. The field offers a "challenge of further understanding the essence of language in public space" (Shohamy & Waksman, p. 329). In a recent publication Shohamy and Ghazaleh-Mahajneh (2012) questioned the traditional notion of the term *minority* language. They studied the consequences and the impact of the status of Arabic as a so-called minority language in its relation to Hebrew and English. They concluded that the concepts of minority and majority are relative and politically determined.

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In recent years, linguistic landscape research has used different theoretical perspectives. Franco-Rodriguez (2011) and Kasanga (2012) continued in the tradition of ethnolinguistic vitality theory, already the point of departure for Landry and Bourhis (1997). A frame-analytic perspective based on Goffman (1974) was used by Coupland and Garrett (2010) in an analysis of the Welsh in Patagonia and again by Coupland (2012) in an analysis of language policy in Wales. Also, Kallen (2010) applied frame-analysis to the multilingual landscape of Dublin, and Jaworski and Yeung (2010) used it to explain the naming of residential buildings in Hong Kong. These studies show that a frame-analytic perspective can be enriching for linguistic landscape studies.

Sloboda, Szabó-Gilinger, Vigers, and Šimičić (2010), as well as Szabó-Gilinger, Sloboda, Šimičić, and Vigers (2012), used the theory of advocacy coalitions framework (Sabatier & Jenkins-Smith, 1999) from policy sciences to underpin their analysis about the perception of multilingual signs in a comparison of four European towns. Leeman and Modan (2009) drew on cultural geography theories of landscape as well as research on the commodification of language and ethnicity in their discussion of the changes in Chinatown, Washington, DC. Taking theoretical ideas from disciplines such as political science and geography can fruitfully contribute to the study of multilingual signage. Stroud and Mpendukana (2009, 2010) tried to address the theoretical dimensions of multilingual mobility and the multimodal representation of languages in South Africa, and Wetzel (2010) analyzed public signs as narratives and described parallels between language on signs and extended discourses. This list of theoretical frameworks that have been applied is not exhaustive, and even if the field started from divergent theoretical assumptions and has gone in different directions, they have contributed valuable new insights on the use of languages and societal multilingualism.

Methodological Developments

Research into linguistic landscapes draws on the general arsenal of available methods in applied linguistics and sociolinguistics. Its main innovation is in the typical method of collecting large numbers of photographs, made possible by affordable digital technology. The methodological development of the field can be illustrated by a series of studies on linguistic landscapes in the Basque Country, Spain. Cenoz and Gorter (2003), inspired by the early work done in Israel, presented a first small-scale study in the city of Donostia-San Sebastián that contains a systematic inventory of all the observable signs in one street only. They referred to the example of Rosenbaum et al. (1977), who also focused on one street, and they adapted the coding scheme of Ben-Rafael et al. (1998). Later, the same authors carried out a more elaborate study. They photographed all the signs in the main shopping street of Donostia-San Sebastián. That street was compared to a similar shopping street in Leeuwarden/Ljouwert in Friesland, the Netherlands, where the same data-collection technique was applied. Their systematic quantitative sampling had as an advantage in that it makes a comparison possible of the distribution of languages on the signs and different

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patterns of multilingualism. Cenoz and Gorter (2006) discussed how the counting of the signs is not unproblematic because decisions have to be made about what constitutes the unit of analysis. They decided to count all visible signs, large and small. A shop front is one unit, but an individual street sign or a poster is one unit as well. In contrast, Backhaus (2007), quantifying of signs in Tokyo, counted only signs that contained more than one language. He defined signs as "any piece of written text within a spatially definable frame" (p. 66). In both cases some degree of arbitrariness cannot be avoided, and both studies exclude moving signs such as advertisements on buses, texts on T-shirts, or thrown-away wrappers. Sebba (2010) argued that "while fixed signage is undoubtedly of great interest ... it needs to be seen and analysed as a subset ... of all public texts, which also includes mobile or 'non-fixed' public texts" (p. 59).

The quantitative-distributive approach to multilingualism in the study of the linguistic landscape was followed by several researchers, including Coluzzi (2009), Edelman (2006), Gorter (2009), Lado (2011), Lai (2012), and Muth (2012), among others. The analysis of the quantitative data is often underpinned by a qualitative analysis as part of their studies. Macalister (2010) critically examined the much imitated quantitative approach, but showed at the same time its usefulness in an analysis of the predominately monolingual linguistic landscape of the small town of Picton, New Zealand.

Cenoz and Gorter (2006) were able to apply an international comparative perspective because they used identical sampling procedures. Their analysis of two European regions where a minority language is used, informed the reader about the distribution of the minority language (Basque or Frisian), the state language (Spanish or Dutch), and English as the global language. The differences in official language policy between the two regions were held responsible for a larger or smaller number of signs in the minority language. The study showed that the linguistic landscape of a specific area marks the geographical space inhabited by a language group or groups. It indexes a sociolinguistic reality that touches on the relationships between people living in this specific area and beyond. The linguistic landscape not only reflects the status of different languages in society, but it also acts as a force shaping how languages are being perceived and used by the population.

Another innovative methodology came from the interdisciplinary collaboration of applied linguists and economists in SUS.DIV, a European Network of Excellence about Sustainable Development in a Diverse World. A team of researchers explored the possibility of using econometric models to analyze the linguistic landscape and to look into the use and nonuse values of the signs (Cenoz & Gorter 2009; Nunes, Onofri, Cenoz, & Gorter, 2008; Onofri, Nunes, Cenoz, & Gorter, 2010). In their study they applied the contingent valuation method to an allocation scenario in which persons were asked during street interviews to answer standardized questionnaires about the linguistic landscape. One research question concerned *preference structures* (what languages do the interviewees prefer?) and another *priorities* (how much is it worth to them?) (Aiestaran, Cenoz, & Gorter, 2010).

In a recent study Kopinska (2011) tried another methodological approach by creating a semi-experimental setting to test the hypothesis that language

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practices can be influenced by the language used on the signs. A group of students were presented with a series of slides on which signs of a bakery or a bank appear on one half of the slides either in Basque or Spanish, and the other half are distracter signs of other establishments with bilingual, multilingual, or English signs or a brand name. In half of the cases, the written language on the sign is in agreement with the spoken language of a costumer, and in the other half, the displayed language is different from the spoken language. The respondents have to evaluate the language choice of the client in the establishment and indicate which language they themselves would use in the given situation (Kopinska, 2011; Kopinska & Gorter, 2012).

Outside the Basque Country, Barni and Bagna (2009) applied a unique method of quantitative mapping of the linguistic landscape by means of a computer program. Their research tool, MapGeoLing, can provide a detailed description of all the signs in a street or a whole neighborhood. The software has the built-in possibility of adding codes to the photograph about the text genre, domain of use and its context, and its linguistic features. They applied this technique to map immigrant languages on signs in the Esquilino neighborhood in Rome (Barni & Bagna). In a follow-up study of the same neighborhood, Barni and Vedovelli (2012) aimed to observe changes after an important policy measure was implemented, but apparently they did not use the same tool again.

A more qualitative approach was chosen in other studies. Based on their experiences in the Basque Country, Cenoz and Gorter (2008) explored qualitatively the role that languages on signs can potentially have as a source of authentic input or learning method in second language acquisition, in particular for the acquisition of pragmatic competence and multimodal literacy skills. The linguistic landscape contains many texts that can be useful in a learning context. Even a vending machine that asks in two languages "Are you thirsty?" not only displays in pragmatic terms a request, but also gives access to authentic input and can raise language awareness (see also Gorter & Cenoz, 2007). Malinowski (2009) obtained insights from interviews with Korean shop owners, then combined these insights with a joint interpretation of the store's signs in order to figure out issues about authorship of the use of Korean, English, or both in the signage. Another qualitative study was carried out by Leeman and Modan (2010), who wanted to expand the boundaries of linguistic landscape research by breaking away from a quantitative approach and attending to the linguistic and spatial context of the written signs. They focused on the meaning of the languages on the signs they examined. Taylor-Leech (2012) took a similar qualitative approach to analyze language choice in the linguistic landscape of Dili in Timor-Leste. She examined signs that illustrated indexical, iconic, and visual grammatical features in order to demonstrate the links between the linguistic landscape and the wider social, economic, and political context. Garvin (2010) used a remarkable qualitative research technique in conducting what she called *postmodern walking tour interviews*, in which she interacted with passersby in order to understand their response to the linguistic landscape around them in the street. She saw her method as an explorative exercise into understandings and visual perceptions of signage that mark an increase of multilingualism and multiculturalism in Memphis, Tennessee.

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Mitchell (2010) demonstrated the value of triangulation of different methods. He combined a discourse analysis of a newspaper clipping, the languages overheard being spoken on the street, and a quantitative photographic investigation of the linguistic landscape. In one neighborhood of Pittsburgh, Pennsylvania, Mitchell found a predominantly monolingual linguistic landscape (96.5% English only signs) and a similar "soundscape" (80.7% of the people spoke English). Still, that same landscape has given rise to a newspaper report with metaphors of "invasion" and "flood" to represent a "discourse of fear about Latino immigrants" (Mitchell, 2010, p. 169). More and more scholars purposefully combine several research methods: For example, Bogatto and Hélot (2010) combined quantitative with qualitative methods in Strasbourg; Dray (2010) juxtaposed a survey-type analysis with a detailed qualitative ethnography on Jamaica; and Lou (2010) added together a geosemiotic analysis of shop signs, observations of community meetings, interviews with neighborhood residents, and ethnographic fieldwork in Chinatown, Washington, DC. Also, Papen (2012) combined textual and visual analysis of signs with interviews with sign producers such as shop owners, activists, and street artists in a neighborhood in Berlin. The results of these studies seem to be based on a relatively small set of nonrandom and selective empirical data, which can illuminate the relationship of individual signs with issues of multilingualism and with wider social, economic, or political developments, but at the same time can be a weakness because replication and generalization seem difficult.

OUTLOOK: MOVING FORWARD

Linguistic landscape studies have been conducted for over 40 years, but it is during the last five years that there has been an explosion of publications. Given these recent developments, it is likely that researchers will want to continue making important contributions to our understanding of several aspects of societal multilingualism, language policy, and the use of written languages in urban contexts. Although linguistic landscapes are usually studied in urban settings, primarily in the most central parts of a city, Daveluy and Ferguson (2009) challenged the dichotomy between urban and rural in their discussion of road signs in the north of Canada, and Kotze and Du Plessis (2010) focused deliberately on the linguistic landscapes of rural areas.

As Dagenais, Moore, Sabatier, Lamarre, and Armand (2009) pointed out, cities can be viewed as "dense with signs that must be deciphered, read, and interpreted by citizens" (p. 255). The study of the linguistic landscapes has added an innovative and captivating approach to the mapping of language diversity and multilingualism in urban settings. Linguistic landscapes can be places where linguistic diversity is displayed but also contested. Some language groups have more access to being on written display in public sphere than others; majority languages dominate, but minority languages often struggle for visibility (Marten, Van Mensel, & Gorter, 2012). In this sense, a multilingual cityscape is the outcome of particular social processes, and at the same time, the signage can be a display of identities of certain language groups and not

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others. Therefore, the regulation of the linguistic landscape will remain an important issue, not only in terms of which languages are used but also because of moral, ethical, and legal dimensions. The linguistic landscape seems to reflect the relative power and status of the different language groups in a specific context.

A basic assumption of many studies is that the linguistic landscape contributes to the construction of the sociolinguistic context because people process the visual information that comes to them. Another assumption is that the language in which signs are written can influence the perception of the status of the different languages and affect linguistic behavior.

No doubt the field's main foci over the past 40 years—the spread of English, the distribution of languages, language regulations, minority languages, and so on—will continue to characterize studies of linguistic landscapes. At the same time heterogeneity can be seen as a built-in characteristic of the field.

Studies of the spread of English in the linguistic landscape were among the first in the field (Rosenbaum et al., 1977), and this theme continues to attract the attention as a recent special issue of *World Englishes* attests (Bolton, 2012). Words, chunks, formulae, phrases, and utterances are used in English in the linguistic landscape, in particular in the case of commercial signs. English is used along with other languages, visuals, and icons, and these multilingual and multimodal texts display soft boundaries between languages and between modes (Cenoz & Gorter, 2008). As mentioned earlier, English is often associated with modernity, internationalism, technological advancement, or what Rosenbaum et al. (1977) called *snob appeal*. Other reasons to use English may be creative-linguistic or related to the possibility to use English as a lingua franca across many countries. Kuppens (2009) demonstrated that independent of these reasons, sometimes English signs also contain a linguistic cue as an intertextual reference to existing media genres. Hybrids of English with Chinese signs resulted in what Radtke and Yuan (2011) called "Chinglish" (p. 390). They attempted to develop a typology based on a corpus of signs collected through a website and suggested future studies into the sign production process and into control of official translations.

Names are an important element in linguistic landscapes, but it is not always clear to what language they belong. Edelman (2009) and Tufi and Blackwood (2010) tried to solve the problems by coding and attributing brand names to specific languages. The social psychological concept of social representation could provide a solution, and in future studies, people could be asked to designate the "language of representation" of trademarks and brand names (Tufi & Blackwood, p. 208). Du Plessis (2009) addressed the regulation of language choice in geographical names in South Africa because such decisions may lead to bilingual or multilingual names. Du Plessis demonstrated that this analysis provided more insights than a mere policy analysis would. Puzey (2009) considered how including minority place-names on signs could be perceived as an act of renaming in itself. Jaworski and Yeung (2010) discussed the names of residential buildings in Hong Kong, the languages used for them, and how they were framed, and Tan (2009) found that English predominates in building names in Singapore, contrary to the official language policy of multilingualism. These

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studies can provide valuable examples for future studies into the relationship between the use and regulations of names in the linguistic landscape and its monolingual or multilingual character.

The Rosetta stone and a pair of street signs in Jerusalem were given as examples at the beginning of this article to make clear that linguistic landscapes can have an important historical dimension. A diachronic approach has been applied by several researchers, such as Backhaus (2005), who looked into layering of signs over time, or Lou (2007) and Leeman and Modan (2009, 2010), who worked on historical developments in Chinatown, Washington DC. Pavlenko (2010) examined different periods of the visual landscape of Kyiv, Ukraine, and the factors that shaped language changes. Pavlenko wrote a sociolinguistic history of the 9th to the 21st centuries based on sources with linguistic landscape items. She used a corpus of pictures with traces of past linguistic landscapes on frescoes, coins, manuscripts, and also photographs from the 19th century onward, including her own pictures of signage. She also used secondary sources such as archaeological studies or memoirs of travelers. Her study demonstrates the value of a diachronic approach by providing an overview of a 1,000-year-old multilingual tradition of the city.

The perspective of the actors was already included in some of the studies that were mentioned before (e.g., Malinowski, 2009; Lou 2010; Papen, 2012), but Ben Said (2011) suggested a future line of inquiry, remarking that linguistic landscape research "ought to include voices from the people as an essential part of the interpretation of the linguistic landscape" (p. 68). Also, the industry of sign producers should be considered in this type of research because it is an economically important industry that determines to a large degree what the linguistic landscape looks like and which languages are used.

A promising direction in linguistic landscape studies consists of investigations of semipublic institutional contexts, such as government buildings, libraries, museums, hospitals, and schools. Education as an institution has already attracted the attention of some scholars. The aim of Dagenais et al. (2009) was to document the literacy practices of elementary school children, by examining multilingualism and language diversity in their communities in Vancouver and Montreal. The attention to the linguistic landscape in an educational context provides a promising way to teach about language awareness and literacy practices. Clemente, Andrade, and Martins (2012) followed their example in a project called "learning to read the world, learning to read the linguistic landscape" (p. 268), where they applied a similar didactic strategy in a Portuguese primary school. Based on anthropological fieldwork in Estonia, Brown (2012) wanted to analyze the reemergence of the regional language Võru in "school spaces" (p. 281). She identified the regional language as enriching national culture, but also as an historical artefact. She identified these two central themes in different signs in the linguistic landscape inside the schools. Also, university students can profit from working with the linguistic landscape. For example, Sayer (2010) used the linguistic landscape as a pedagogical tool for teaching English as a foreign language in Mexico, and Hancock (2012) investigated how student teachers respond to the linguistic landscape in the city of Edinburgh. In the case of education, the signage can be related to issues of second or third language

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acquisition or language awareness, but as these studies demonstrate, questions about the functions of signs, multilingual literacy, or multilingual competence can also be investigated.

New developments in how language is displayed in public spaces and how researchers study language on signs may result in further shifts of theoretical approaches and methods as the field is moving forward. The ways in which signs are displayed and how the languages are used may change in striking ways due to technology. When the study of linguistic landscapes began, there were no smartphone apps, no interactive digital advertisements, no Internet, no text messaging, no Twitter, and so on. The rapid spread of these technologies is both a challenge and an opportunity for linguistic landscape researchers. In recent years flat screen video displays have begun to populate urban commercial areas. They have become part of the linguistic landscape of most shopping streets. The signs that combine to form the linguistic landscape are to some degree static, and as was mentioned earlier, one can observe historical changes over time in the signs. These video displays add dynamism and fluidity to signage, and it is a challenge to capture and analyze their contribution to the multilingual makeup of the linguistic landscape. Other recent phenomena are so-called QR-codes, the small black-and-white squares that look like a Mondrian painting. In just a few years they became omnipresent in advertisements, on information panels, and so on, but these barcodes cannot be read by humans. Only through a smartphone, used as a barcode reader, can one discover what is behind the symbol and in what language(s) the information is available.

New technology will keep coming; some of it is already with us, and more will arrive soon. One example of where things are headed is augmented reality (AR), that is, the viewing of digital information that has been superimposed or augmented onto a live view of our physical environment. AR has already become common in sports television broadcasts to display different sideboard advertisements for different audiences or to superimpose artificial, digital lines on a playing field. In commercial applications, AR can be used to display products in different languages for different costumers. AR changes the perception of the linguistic landscape because it overlays the real world with digital data. Another example is a smartphone app such as *Wordlens* (http://questvisual.com/us/) that can translate almost any sign written in Spanish into English (and vice versa) by only pointing the phone at the sign. The next generation of personal technology has already started, such as Project Glass by Google (https://plus.google.com/+projectglass/posts), in which you wear a pair of glasses through which you read information about objects at the same time you look at them. If you combine Project Glass, AR, and automatic translation, you can imagine that the production, perception, and experience of linguistic landscapes will most certainly change and a multilingual cityscape can turn into a monolingual version of the language you prefer to read, which for the time being will most likely be English. These technologies raise a multitude of new questions about societal multilingualism that deserve systematic study.

From the previous research, it has become clear that researchers approach the linguistic landscape from a variety of theoretical perspectives and with various methodologies. The research has seen increasing diversification, which

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has been motivated by the diversity of themes and issues investigated in a variety of settings and locations. Some theoretical progress has been made, but more is needed. A future challenge will be to use empirical studies to test theoretical ideas rather than provide descriptive or analytic accounts that more or less illustrate theoretical ideas. A panoptical view can be beneficial, but the theoretical work can be strengthened further. More thought should go into what the signs mean, what they do, and how they influence the use of written and spoken languages in people's lives.

The typical linguistic landscape method of collecting photographical data can be considered an additional source of information about the sociolinguistic context along with censuses, surveys, and interviews. Methodologies can be quantitative, qualitative, ethnographic studies, or even experimental. However, the methodology thus far has been often eclectic, which can suffice, but it could be less explorative. In addition, more efforts are needed to build on former studies. Perhaps more important, as language becomes increasingly digitized, the size, range, and nature of the samples that can be analyzed will increase dramatically. More rigorous research is needed that is well controlled and that can be replicated by other researchers.

The field of linguistic landscapes is growing as a specialization in applied linguistics, sociolinguistics, and language policy studies. It will not likely evolve into a new subdiscipline on its own, nor will a new coherent theory of multilingualism be developed in the near future. But its studies provide important additional tools for research, innovative sources of data, and reflections on theoretical ideas. The results of linguistic landscape research offer fresh perspectives on issues such as urban multilingualism, globalization, minority languages, and language policy. I have tried to capture the broad scope of this rising field and the main characteristics of the research done so far. Overall, the various emerging perspectives in linguistic landscape research can deepen our understanding of languages displayed in urban spaces, language users, and of societal multilingualism in general.

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ANNOTATED BIBLIOGRAPHY

Gorter, D., Marten, H. F., & Van Mensel, L. (Eds.). (2012). *Minority languages in the linguistic landscape*. Basingstoke, UK: Palgrave-Macmillan.

This collection of 18 articles focuses on the dynamics of the use of minority languages for public display in urban spaces or next to majority languages, English as a global language, and other languages. Most articles make use of tangible, photographic data to explore the so-called same old issues of language contact and language conflict.

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The lens of the chapters is on situations in Europe, with two contrasting cases from Israel and Brunei.

Jaworski, A., & Thurlow, C. (Eds.). (2010). *Semiotic landscapes: Language, image, space*. London, UK: Continuum.

Semiotic landscape is an alternative term for *linguistic landscape* that emphasizes a wider focus for the studies in this book. For the editors, space and image are equally important to language texts. The programmatic introduction adds complexity to existing theories and methodologies. The authors of the 13 chapters succeed in doing a good job exploring and expanding the borders of the field.

Shohamy, E., Ben-Rafael, E., & Barni, M. (Eds.). (2010). *Linguistic landscape in the city*. Bristol, UK: Multilingual Matters.

This collection offers 18 case studies of major world cities and smaller towns concerning the factors that construct the linguistic landscape and the impact it has on wider sociocultural realities. Its programmatic introduction characterizes the field as being interested in "ordered disorder" (pp. xi–xxviii), a jungle of jumbled and irregular items, which can be analyzed by using underlying structuration principles. This book complements existing publications on linguistic landscape.

Shohamy, E., & Gorter, D. (Eds.). (2009). *Linguistic landscape: Expanding the scenery*. New York, NY: Routledge.

This book introduces a broad and diverse view on the field of linguistic landscape studies, based on empirical data obtained from a wide range of places from around the world. It provides a basic exposition of an expanding field. Across the 20 chapters, urgent issues of study in linguistic landscapes are dealt with. The book puts forward many suggestions as to what the field in its various manifestations can become.

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