Data Triangulation as a Resource in Multilingual Research: Examples from the Linguistic Landscape

Selim Ben Said

Abstract

In keeping with a new trend in sociolinguistic research which explores the visual dimension of bilingual and multilingual environments (Backhaus, 2007; Scollon & Scollon, 2003), this study provides a blueprint for the analysis of multilingualism found on street signage and discusses some of the methodological challenges involved in conducting linguistic landscape (LL) research. Taking up the definition of the LL offered by Landry and Bourhis (1997), this paper will first present the defining principles of this new area of research in Applied Linguistics. Subsequently, the most common methodological approaches in conducting LL research will be briefly reviewed and critically appraised. In the final section of this paper, an illustrative account of a LL case study performed in Tunisia will be presented and described. This examination will underscore how the abundance of visual artifacts complied from the LL, although resourceful, nonetheless need to be combined with triangulation from supplementary data sources. Data triangulation therefore permits LL researchers to convey a more comprehensive and illustrative account of the complexities of multilingual contexts but also helps to circumvent methodological hurdles in collecting multilingual data.

Introduction

The study of the linguistic landscape

In contemporary societies, dynamic urban environments literally surround inhabitants with visual images that form part of their daily experience. While these visual messages may have a variety of modalities (Kress & Hodge, 1998; Kress & Van Leeuwen, 2001, 2006; Van Leeuwen, 2005), they usually involve either language or image, or a combination thereof. These can be thought of collectively as constituting the linguistic landscape. As stated in Landry and Bourhis (1997, p. 25): "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". The term 'linguistic landscape' (LL hereafter) is the physical domain or context where visual messages are displayed as signs and read by passersby. In this paper, the term LL will be likewise used to refer to the study and analysis of how language is manifested through visual interfaces rather than how it is articulated in the spoken mode. As explained by Landry & Bourhis (1997), the LL serves both an informative and a symbolic function (Figure 1). While the informative function aims at providing information about the linguistic characteristics and delimitations, as well as the geographical boundaries of a particular sociolinguistic group, the symbolic function, on the other hand, involves the LL as an index of the socio-political dynamics, prevailing ideologies, and social arrangements within the environment observed.

From this vantage point, the LL constitutes a unique platform for the study of multilingualism because it breaks away from an established trend within sociolinguistic research to investigate speech at the expense of written forms. More specifically, a great deal of sociolinguistic research around the world (Ball, 2010) remains decidedly guided by traditional variationist sociolinguistic research models à la Labov (Labov, 1972, 1980; Trudgill, 1995, 1999), and would be more suitably re-labeled as 'sociolinguistics of language' rather than 'sociolinguistics of society'. In fact, traditional sociolinguistics is geared towards analyzing aspects of speech, such as pronunciation, accent, and other oral features, to determine how language varieties are expressed and represented within communities. However, in light of the recent developments in LL research (Backhaus, 2007; Gorter, 2006; Gorter & Shohamy, 2009; Shohamy, Ben Rafael, & Barni, 2010) it is clear that among the multilingual practices of a particular society, written/visual forms are of equal importance to their oral/spoken

counterparts, and provide useful contextual information pertaining to the sociolinguistic environment investigated.

Figure 1 Informative and symbolic dimensions of the LL.

In this sense, an underlying bias and shortcoming of traditional sociolinguistic research is its over-emphasis on the role of spoken language to the exclusion of written forms. Furthermore, by focusing exclusively on speech, mainstream sociolinguistic research has also reduced the context where languages are used and encountered. LL research, on the other hand, values the way in which written language can contribute to the constitution of a sociolinguistic context. In addition, with appropriate methodologies, LL studies can enable us to understand how languages are visually processed and experienced by people in linguistically diverse contexts – an area of analysis that is becoming important in this age of visual literacies (Burmark, 2003; Gee, 2007; Kress, 2003; Luke, 1994).

Methodological caveats in LL research

Within the LL literature, a large number of studies have consistently followed a systematic observational approach whereby the visual data was analyzed from the investigator's perspective (i.e. etic) and subsequent conclusions were then made as to the degree of multilingualism of the environment investigated. While this approach can yield a considerable amount of information with respect to the frequency and occurrence of linguistic forms, as well as to the geographical distribution of languages, it does not give us a clear indication of how these languages are perceived by the local community. Other important caveats in LL research include:

Difficulties in defining the unit of analysis:

Determining the exact size and nature of signs to be collected and analyzed represents an ongoing methodological issue in LL research. Indeed, LL experts have constantly drawn attention to this problematic question. Gorter and Cenoz (2008) for instance, observe that:

> The unit of analysis - the large number of language signs next to each other
> makes it difficult to decide what each linguistic sign is. Are all the linguistic items
> in a shop window part of 'one' language sign or should they be considered

separately? What about other ads, graffiti or posters next to the shop window? Can a whole street be considered a unit of analysis? There are indeed advantages and disadvantages with each of these choices. Decisions regarding the unit of analysis are important because it is a crucial methodological issue to allow for comparability between studies (p. 351).

This debate which touches on the specificities and characteristics of signs is further problematized in light of the expanding scope of LL research. In fact, current studies are 'expanding the scenery' of LL artifacts to include additional semiotic domains (e.g. statues, memorials, bank notes, etc.) (Jaworski & Thurlow, 2010; Shohamy, Ben Rafael, & Barni, 2010).

Choosing to select a bigger range of sign types rather than to focus on only one category of signs can help to capture the diversity of the LL. In addition, choosing to have a more inclusive and balanced representation of signs also enhances the validity of LL studies because it providing a more representative and holistic account of the linguistic/semiotic context examined. Backhaus (2007) supports this idea by stating that:

> Many aspects of a city's linguistic landscape are not captured when focusing on one type of sign only. In this respect, qualitatively oriented studies such as Calvet (1990, 1994), Scollon and Scollon (2003), or Spolsky and Cooper (1991) have a much wider scope, including both official and non-official, and both commercial and non-commercial signs. (p. 61)

These methodological challenges in determining the 'unit of analysis' yet remain an ongoing debate in the field and although the definition of Landry & Bourhis serves as a general yardstick in providing a broad characterization of what the LL is, the sign selection process is a matter of personal interpretation. Griffin (2004, p. 6) for example offers to collect signs based on the criterion that they had to be legible from 'one arm's length', and thus anything too small and which was therefore difficult to read was not included in the data. While such a methodology might seem to be subjective and random, it nonetheless offers an attempt at systematizing the data collection procedure.

Fixed versus transient nature of signs:

While the large majority of signs are fixed in geographically determined locations, other signs are transient, by the very fact of being featured on vehicles and modes of transportation (e.g. buses, trains, taxis) for example. This transient nature of signs is particularly prevailing in this current digital age where electronic signs are omnipresent, and where fleeting images/messages are challenging the fixity of traditional 'static' signs. Graffiti, posters, brochures, and leaflets, are also part of the LL which represent a challenge to the researcher due to their 'ephemeral' nature. In addition to this layer of difficulty in the data collection process, other signs represent the challenge of being symptomatic of a particular time phase. More specifically, signs which are older although representing a historical window into the past, being described as 'relics' of historical periods (Calvet, 1994), can mislead researchers if not situated in their historical context. Several LL researchers have examined this diachronic layering of signs and to how their presence in the landscape attest to particular social/historical phases and/or display dominant political ideologies (Abousnnouga & Machin, 2010; Backhaus, 2005; Coulmas, 2009; Gendelman & Aiello, 2010; Shohamy & Waksman, 2010; Sloboda, 2009; Spolsky & Cooper, 1991; Waksman & Shohamy, 2010). Other signs are only visible during the night (storefront neons, light signs, blinking billboards, etc.) and therefore can only be documented in a particular time period.

Sampling and representativity:

Achieving a comprehensive representativity of all the street signs within a given environment is a colossal task which has been rarely achieved in LL research (to the exception of large-scale studies such as Barni & Bagna, 2009). Although large-scale studies involving geo-

referencing (i.e. mapping satellite data with LL data) require considerable financial resources, it is still possible to systematize the data collection procedure and to select as Gorter & Cenoz (2008) suggest data collection sites which have similar characteristics. This has been translated in the literature into studies which have chosen to deliberately collect data from large avenues in chosen cities, or to isolate specific neighborhoods for data collection. In this respect, it is therefore recommended to pre-define the areas investigated in order to minimize inconsistent findings which result from a lack of rigorous data collection procedures.

Lack of data triangulation:

Another significant flaw in most LL studies is that visual data by itself is treated as sufficient to provide full evidence of the linguistic situation of the contexts investigated. Very few studies (Hornsby, 2008; Landry & Bourhis, 1997; Lanza & Woldemariam, 2009; Rosenbaum, Nadel, Cooper & Fishman, 1977; Trumper-Hecht, 2009) have tried to triangulate data by using other data sources or to substantiate the findings collected from visual data with other types of data. In this regard, data triangulation and the inclusion of a 'diversity of methods' (Kirk & Miller 1986, p. 30) enables LL researchers to steer-away from hasty conclusions which do not reflect the reality of linguistic situations on the ground. As will be shown in the subsequent section, this study has aimed to fill this methodological gap in LL research. In fact, rather than imposing the researcher's own perspective on the reading of these signs, this study adopts an emic approach to describe the local population's own reading of street signs. In addition to the perspective from human subjects, which has been heretofore largely overlooked in LL research, this examination of the LL of Tunisia aims for a holistic treatment of signs by situating them in the context of policy documents and official statements on language policy. The three different forms of data – street signs, people's opinions, and policy documents – therefore helped in triangulating the findings effectively.

The study

The broad objective of this study was to describe, analyze, and develop a sound understanding of the multilingual communicative practices found in Tunisia, by analyzing linguistic artifacts consisting of documented official language policies, the language of street signs (i.e. LL), and survey and interview data from people's attitudes to languages in Tunisia. Through the use of these three data sources to examine multilingualism in Tunisia, this study develops a perspective on the country's linguistic ecology and degree of multilingualism.

Data categories

In order to triangulate the findings pertaining to visual multilingualism in Tunisia, three different sources of data were considered.

(1) Visual data consisting of photographs of signs collected from three preselected urban areas in Tunisia. The database collected for the study consisted of approximately 750 images.

(2) Policy data including official documents articulating the linguistic policies of the country with respect to official languages, languages of print, and other policies pertaining to the respective status of each language in the context of Tunisia.

(3) Attitudinal data collected from Tunisian informants through a survey questionnaire which was designed to investigate their perceptions of languages in Tunisia in general, and specifically on the street signs database. These surveys were followed by interview sessions to expand on the participants' survey answers.

The inclusion of data from local informants was aimed to provide an additional layer of interpretation of the results of this study. The understanding of languages on signs were not limited to the interpretations of an omniscient researcher's insights - - as is the case in most LL research - - but were moderated with and balanced by the perspectives and self-reflections of insiders about their local sociolinguistic communities. This allowed for an interpretation of the

LL in light of data which prioritized people's voices. In addition, local knowledge provided through informant data constituted a non-centralized and independent theorization which was not contingent on the endorsement from top-down/institutionalized régimes of thought (Foucault 1980, p. 81).

Data collection techniques

As mentioned by Backhaus (2007, p. 65), if one needs to guarantee a sound data collection procedure, two fundamental points need to be taken into consideration, namely the determination of the survey items, and the geographic limits of the survey area. The survey items were confined to the definition of LL as provided by Landry and Bourhis (1997) and hence included "public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings" (p. 25). With respect to the second point, the collection of data was conducted while taking into consideration both the major busy axes of the surveyed cities as well as the more residential areas. This was performed in order to guarantee a more representative and balanced coverage of the investigation sites. However, even though data was collected at different points in the research sites, the data does not claim to be a holistic and exhaustive representation of the LL of Tunisia as a whole and does not aim to perform an across-the-board survey of the LL of the country, such as is the case in geographically-comprehensive LL studies (Barni & Bagna, 2009), but to select a cross-section of streets in three selected areas in order to describe the observed trends of these LL environments.

Some LL studies have offered to dovetail the central circular railway or bus line of a city, as in Backhaus (2007). This methodology while appealing is problematic as it does not account for all areas of the cities but only the ones accessed by transportation facilities. On the other hand, collecting data from only one street or large avenue as performed in several LL studies (Edelman, 2006; Cenoz & Gorter, 2006; Rosenbaum et al., 1977) is again not devoid of methodological hurdles as limiting the data collection to an exclusive street, not only excludes other areas of the cities, but also makes the study weak in terms of the city's holistic representation. Based on these parameters, it was necessary to find a middle ground between these two data collection procedure and to perform the data collection in a structured manner. The data was therefore collected from not only one but several pre-selected streets within the chosen cities. More specifically, snapshots of street signs were collected from each street within an area delimited by two consecutive traffic lights. Despite having the limitations of not being statistically accurate, the advantage of this selection principle is that it combines the methodologies of Backhaus (2007) on the one hand who used traffic lights as points of geographical reference, and other researchers (Edelman, 2006; Cenoz & Gorter, 2006; Rosenbaum et al., 1977) who collected signs over long stretches of streets. In this respect, this collection procedure represented a disciplined and non-biased way to determine the survey area.

Findings

In this section, illustrative samples of data have been selected in order to show how the use of diversified data sources provided a more complex picture of the multilingual situation in Tunisia. In this respect, following an initial analysis of the data pertaining to language policy documents, it was revealed that the discourses emanating from governmental decrees presented Tunisia as a resolutely monolingual country.

This was clearly expressed in the national constitution (Tunisian Constitution, Chapter I, Article 1, p. 4) which stipulates (emphasis added) that:

'Tunisia is a free, independent and sovereign state. Its religion is Islam, its language is Arabic and its type of government is the Republic'.

Based on this official policy document, it is clearly stated that Arabic is the language of the state, or the language that has official status and high prestige. When looking more

specifically at official legislative documents which regulate the representation of languages on street signs, we notice that again Arabic is stated as the dominant language of the country. In this regard, Article 1 of the decree of the municipality of Tunis (August 6, 1957) states:

'All commercial, industrial, or other categories of signs, which are in the public space, must be written in the Arabic language'.

Therefore, Arabic is expected to always be featured on both official and private signs. This condition however does not exclude the subsidiary use of a foreign language. If we were to be contented with these 'top-down' findings alone, we will have only a partial picture of the linguistic situation of Tunisia and a closer look at the data from street signs actually shows a clear discrepancy between what is advocated at the governmental level and what is practiced on the ground. In fact, a careful analysis of LL data reveals a rather different account of the linguistic situation.

Table 1 Proportion of monolingual signs in the areas investigated.

Language	Examined Areas		
	Tunis (Old City)	*Tunis (New City)*	*La Marsa*
Modern Standard Arabic	**73%**	35%	37%
French	20%	**37%**	**43%**

* For clarity, additional languages were excluded from the table

The numerical distribution of monolingual signs (Table 1) confirms that Arabic is the language of the state in Tunis (old city), however, it can be noticed that French monolingual signs were still present in the three surveyed areas. This finding stands out as a clear violation of the previously mentioned decrees on language representation, whereby signs must minimally contain Arabic. In addition, in both the new city as well as in the suburb of La Marsa the proportion of French signs is in fact higher than their Arabic counterparts. This second observed finding again dismisses the top-down promotion of Arabic as the unchallenged language of the state. Several sample items from the LL (Figure 2) show with more clarity how the policy on language representation is flouted.

From a purely methodological standpoint, adding another category of data therefore clearly showed that initial findings from policy documents were not enough to present a 'realistic' account of the linguistic situation in Tunisia, rather, official data was disconfirmed in view of artifacts from street signs. Based on findings from the LL, which show a preference for French in the new and suburban areas of the capital city, one would expect to elicit positive attitudes to French when interviewing local informants. However again, the data collected from surveys and interviews shows a more complex situation. In fact, one of the participants in the study, when commenting on the presence and representation of French in Tunisia, argued:

"For me this is not a good sign [i.e. indicator], because it is a loss of identity somehow (…) French has connotations of cultural dominance". (Riadh, 33)

This particular stance vis-à-vis the French language shows a complex relationship towards this language which goes beyond its representation on the street signs. While most Tunisians will acknowledge this language as part of the historical heritage of the country, at the same time several interviewees, of which the abovementioned case is symptomatic, discredited this language as symbolizing hegemony and representing a colonial past. Therefore, the additional inclusion of interview data to colorfully supplement LL data helped in understanding surface trends and thus avoided wrong/hasty conclusions from the researcher. In this particular

Figure 2 Monolingual French sign violating the official policy on language representation

case, the preference for French in the suburban areas of Tunis was not a positive evidence of the prestige or popularity of this language but rather as an evidence of the 'status-quo' which made this language still very present in the LL as a result of Tunisia's historical/cultural ties with France. Reflecting on this phenomenon, which is widespread across the Maghreb, Calvet (1994) describes some of the use of French on street signs as 'colonial relics'. Therefore data triangulation constituted a more resourceful approach to interpret the findings of the study and to appreciate the level of complexity of the linguistic situation of Tunisia.

Conclusion

This study has therefore demonstrated the need to diversify the range and types of data in sociolinguistic studies when investigating multilingualism. In doing so, researchers interested in areas such as language policy and planning can develop a much more astute and comprehensive understanding of urban multilingualism and top-down as well as bottom-up linguistic practices. It appears that using data triangulation can provide more levels of sophistication to the analysis of the language policies and practices of Tunisia. In this respect, by including data from policy documents, street signs, and people's attitudes, the methodology of this study has been successful in triangulating the research findings in order to move from a descriptive to an explanatory depiction of the multilingual practices of the country. Including attitudes and interviews from the local population adds more complex layers of interpretation to the analysis of the sociolinguistic community and moves beyond an etic description of street signs to the explanation of the linguistic practices, and ideologies as vocalized by local informants. As has been shown in the LL literature, studies which included voices from the people (Hornsby, 2008; Landry & Bourhis, 1997; Lanza & Woldemariam, 2009; Rosenbaum et al., 1977; Trumper-Hecht, 2009) had more complex ways of triangulating data from policy documents, and LL items and depicted a more holistic representation of the linguistic dynamics of the examined environment. On the contrary, studies which did not incorporate people's attitudes did not move beyond descriptive extrapolations about the sociolinguistic environment investigated. Thus, future LL research ought to include voices from the people as an essential part of the interpretation of the linguistic landscape.

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The author

Selim Ben Said is a Visiting Assistant Professor at the National Institute of Education, Singapore. His research interests include language attitudes/ideologies, language policy and planning, language on visual interfaces, and more recently teachers' identities. He has published in the areas of attitudes to foreign-perceived accents, linguistic imperialism and multilingualism.

Multilingualism and subsequent language learning. Research evidence suggests that acquir-ing more than one language creates different kinds of connections in the brain, which gives multilingual individuals an advantage in some respects compared with monolingual individuals. An important article by Lambert (1985) cites a number of studies about the enhanced cognitive flexibility that balanced bilinguals experience, which makes them bet-ter able to engage in problem solving and adapt to new ideas. In a review of language awareness as a field of research and practice, Svalberg (2007) emphasizes the need to actively engage language awareness because it is not "a purely intellectual awareness and is not passive" (302). Data triangulation therefore permits LL researchers to convey a more comprehensive and illustrative account of the complexities of multilingual contexts but also helps to circumvent methodological hurdles in collecting multilingual data. Introduction The study of the linguistic landscape In contemporary societies, dynamic urban environments literally surround inhabitants with visual images that form part of their daily experience. These can be thought of collectively as constituting the linguistic landscape. Lack of data triangulation: Another significant flaw in most LL studies is that visual data by itself is treated as sufficient to provide full evidence of the linguistic situation of the contexts investigated.