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**Developing methods for the study of  
linguistic landscapes in  
sparsely populated areas**

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## **Abstract**

This article focuses on the methodology developed in a mixed-method study situated in sparsely populated areas in Sweden within a project that aims at investigating the role of language in place-making and in relation to various groups. These areas have a rich history of multilingualism as well as a more recent influx of multilingualism - the former usually in the form of Indigenous Sámi language and national minority languages; the latter being for example tourism from many parts of the world or refugees.

The article discusses a mixed-methods approach that includes textual and numerical data, as well as qualitative and quantitative analysis. Register data is both used to select sites for investigation and for the interpretation of the data.

The article further focuses on coding and categorizing signs for linguistic code, status, space and function as well as some on methodological issues and challenges that have occurred along the process.

## **Keywords 5-10**

Mixed-methods; sparsely populated areas; register data; Indigenous languages; place-making; language visibility; multilingualism

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How are languages manifested in physical space, and what can language representation tell us about the integration and coexistence between languages and people? Language is the primary tool humans use for communication. Such a powerful tool can also be effectively used to include or exclude people from communication and full participation in social and societal contexts. The ways in which languages are used in a society can be analysed in order to understand which language or languages are allowed to be seen and which are not, thus providing information about language discourses, policy and power. From this vantage point, our research focuses on languages such as they materialize on public and commercial signs, on billboards, etc. in a traditionally linguistically rich area of Sweden, Norrland.

In this article, we present the methodology developed within a research project<sup>1</sup> that investigates how the visibility of languages contributes to the making of public spaces in selected urban areas in Northern Sweden. Our aim is to discuss the specificity of this geographical area and argue for the need and significance of research that investigates place-making processes in this context. Through a mixed-methods approach and the combination and layering of quantitative and qualitative data, the project describes and examines which languages are visible and which are not. We will in a further step analyse and relate these findings to demographic, socio-economic, educational and linguistic characteristics of different spaces. This will enable us to understand how urban and rural places are constructed by the use of majority, Indigenous and minority languages, and to

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<sup>1</sup> The language of place-making. A mixed-method analysis of linguistic landscapes FORMAS 2018-01528 (2019-2021).

investigate the role of language in place-making and in relation to various groups in the population. Further, this will enable us to bring hidden structures of power and how languages are used as a tool to empower or disempower to the surface, and thereby address issues of inclusion and social sustainability in northern Swedish society.

In this article, we first introduce the project's aims and research questions, and second elaborate on our selection of geographical focus and specific places. Third and more importantly, we present our theoretical and methodological approach, more particularly our methods for collection and coding of data. Finally, we present some methodological reflections.

## **1 Aims and research questions**

The aim of the project is to investigate how the visibility of languages contributes to the making of public spaces in Norrland in order to understand processes of inclusion and exclusion. First, the project will map the visibility of the languages present in public spaces through ethnographic fieldwork. Second, the visibility of languages will be coupled with socio-demographic register data of work places and people who access particular public spaces at different times. This will enable us to answer the following research questions (RQ):

RQ1: To what extent and in what ways does multilingualism materialize in various places? With this RQ, we want to investigate if and how language diversity in the socio-demographic data is represented in the linguistic landscapes of different places.

RQ 2: What are the effects and consequences of the relationship between socio-demographic data and language visibility? Here, we want to examine the hierarchies revealed, constructed and challenged in the linguistic landscapes.

## **2 Background and theoretical framework**

Works within the field of Linguistic Landscape Studies (LLS) have primarily focused on multilingual and multi-ethnic urban areas (Nikolaou, 2016; Ben-Rafael et al, 2008; Backhaus, 2007; Hult, 2007), often focusing on a specific area like a street or a neighbourhood in the city (Gorter, 2013). Minority languages have been the focus of only few studies (Salo 2012; Cenoz & Gorter, 2006; Coupland, 2012), and only a few have focused on smaller local urban communities in Indigenous contexts (Pietikäinen, 2014; Phillips, 2011).

The field of Linguistic Landscape (LL) developed from about 2006 with a goal to document multilingualism in public spaces, which up until then had been overlooked in research in applied linguistics (Shohamy, 2019). Gorter (2006) describes the growing interest for this new field within sociolinguistics and applied linguistics with a focus on representation of languages relating to identities, cultural globalisation, the growing presence of English and the revitalisation of minority languages. Early research in the field was, to a large extent, quantitative and focusing on which languages were represented in a public space and how language representation in public spaces was very systematic (Shohamy, 2019). From about 2016, there was development within the field of LL which expanded through connections with other disciplines such as language learning, law, gender etc. Through these connections with other disciplines there were also developments of different methods used within the LL field which now included both quantitative as well as qualitative methods such as ethnography, mixed methods, critical discourse analysis etc. (Shohamy, 2019). The LL field is still developing and in recent years LL research has expanded to not only include written texts displayed in public spaces but also new definitions of languages like tattoos, smells, colours etc. “In other words, LL can be

defined as any display in public spaces which communicates varied types of messages.”  
(Shohamy, 2019:27).

This project is theoretically underpinned by the notion that a place or a landscape is not only a geographic area but that it is also a construction. The perception of space has changed over time. The classical perspective, mostly associated with the development of modern scientific thinking during the 19th century, brings forward an absolute view of space as a container in which physical and anthropogenic processes occur, and that space is a durable and measurable item. Parallel with technological progress triggering continued industrialization and population concentration during the early post-war period, a new perception of space as relative commenced. This perception is based on the idea that locations are relative to each other. Locations and distances were typically mapped and analysed by means of quantitative methods. Structural changes taking place in society during the 1970s causing massive unemployment, social exclusion and poverty were problems that the quantitative paradigm and its perception of space was unable to address. As an alternative view, scholars stressed that the perception of space should be integrated with social theory. This led to an understanding of space as being relational and socially constructed. Space does not exist without mankind and the artefacts she has created.

By adopting this perspective, we view space as being created, changed and affected by human action. Humans produce social space, and their actions are social and spatial simultaneously (Harvey, 2006; Rönnlund and Tollefsen, 2016). In addition, a place is not an ethnic or culturally defined territory but shaped by people through action and interaction, for example locals, groups of tourists, refugees and immigrants and thus creating a dynamic environment that is changing and in constant negotiation (Appadurai, 1996).

Written public signs can be said to both reflect and regulate the cultural, sociolinguistic and political structure of the space they are situated in (Blommaert, 2013). Languages such

as they materialize, become visible or are absent in a specific geographic space, contribute to place-making since they bear and leave traces of the presence of the users of the languages, language use and attitudes to the languages - and thereby contributes to processes regarding inclusion and exclusion. Furthermore, written language in public space has consequences for and influence on language revitalization, language ideologies (Litvinskaya, 2010; Woldemariam & Lanza, 2015) language discourses and practices. These languages are thus part of the shared public space and at the same time part of constructing the social realities of this shared space.

### **3 Methodology**

This study employs a mixed-methods approach in which textual and numerical data, and qualitative and quantitative analysis provide complementary information (Greene, Caracelli & Graham 1989, Tashakkori & Creswell 2007). In order to provide a deeper understanding of the complex and multi-layered phenomena of language use, visibility and power, we will fully integrate the different data sets from photo analyses, registers and geographical information (c.f. Creswell & Plano Clark, 2007).

Our approach acknowledges the potential and shortcomings of quantitative studies, and adds a qualitative layer in order to enrich and deepen our understanding of place-making processes. With Blackwood (2015), we consider that “[f]rom the perspective of language revitalization, when discussing France’s regional languages, a quantitative approach, despite its shortcomings [...], is particularly helpful for cross-referencing over a large geographic space.” (Blackwood, 2015: 50). Moreover, the need for a quantitative study in the case of Northern Sweden is consequential thinking of the scarcity of LL research in the area. This first quantitative step allows us to get "the big picture" of the situation in this region.

Blackwood also underscores the value of statistical data:

Without the statistical foregrounding that permits comparison and facilitates an exploration of change over time, quantitative studies run the risk of appearing decontextualized and, therefore, distorted. The counting and coding of signs from within definable survey areas permit a close examination of language use along a number of vectors, including function. It is this angle that, once contextualized by a statistical overview, enables a close analysis and better understanding of the ways in which RLs are used across France today. (Blackwood, 2015: 49)

In line with Blackwood's argumentation, the socio-economic data (see below) used in this study constitutes yet another layer that enables us to read and understand the other layers of data. Ethnographic data (see below) add a qualitative layer to our approach.

Spatial analysis is central in our methodology. Geographical places are here a point of entry and of focus for compiling our data from the different sources, and in analysing these data in relation to the geographical and social contexts. A digital map, based on a prototype developed in a pilot study<sup>2</sup>, will therefore constitute a methodological hub for our spatial analysis. The topographical exploration through layering of different kinds of data will enable us to map out the selected places and explore place-making processes. The digital map will make it possible to interactively construct complex layers based on the data linked to the image objects and to compare these different layers. This form of deep map (Least Heat- Moon 1991; Bodenham & Corrigan 2015) will enable us to conduct a spatial analysis for the exploration of the different layers of information.

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<sup>2</sup> *Umeå's Linguistic Landscape* Coppélie Cocq, Lena Granstedt, David Kroik, Eva Lindgren and Peter Steggo, Aktasne –Together. New concepts, theories and methodologies in Sami studies II, Umeå Universitet, 9-11 mars 2016. (Poster)

Ethical issues have been considered as the project has progressed. Our ethnographic fieldwork does not include any personal data (photos of addresses for instance, are excluded) or any photos of faces or individuals. On several occasions, we chose to return to the sites before or after closing hours in order to guarantee that we could take photographs without interfering with the work or activities taking place behind a shop window. Another ethical consideration during fieldwork is to give attention to sensitive places, for instance women's shelters should be avoided altogether. During data collection, at least two project participants are involved in order to guarantee that no sign is neglected and to give attention to the surrounding environment - for example to notice if there are people behind a shop window (while photographing) or if we need to proactively explain and present the reason of our fieldwork.

#### **4 Geographical and linguistic context**

Our study area, Norrland, comprises four counties in the northernmost part of Sweden and constitutes one third of Sweden's surface. This is a historically multilingual region where majority languages from the Nordic countries, Indigenous Sámi languages and national minority languages coexist. The gradual shift from agriculture to manufacturing, starting in the latter part of the 19th century, triggered an extensive population redistribution trend towards urbanisation, both on a regional and national level. The mechanisation of forestry and declining possibilities to make a living on small-scale farming in Norrland parallel to strong labour demand in the manufacturing industry in southern Sweden made many families migrate from the north to the south. Up to the early 1950s most municipalities showed population increase, but during the post-war period this trend shifted to decline. This development has been going on more or less continuously and except for a number of strongholds (in particular a few major cities, e.g. Umeå and Luleå) this decrease of

population continues even today. The historical redistribution trend has not only led to more sparsely populated municipalities but also skewed age distributions, creating challenges with regard to service provision and municipality budgets. As a consequence of thin labour markets, unemployment has more recently been accompanied by issues related to provision of labour.

Norrland is a historically multilingual region where majority languages from the Nordic countries, Indigenous Sámi languages and national minority languages coexist. The area is part of Sápmi, the traditional land of the indigenous Sámi people, which also comprises northernmost Norway and Finland and the Kola Peninsula of Russia, and the only place in the world where the endangered Sámi languages are spoken. This area also includes the national minority language Meänkieli, also endangered, spoken in the Tornedalen region along the Swedish/Finnish border. Over the past decades, population movements such as internal and cross-national migration, tourism, industry and trade have made Norrland as well as other parts of Sweden, an increasingly multilingual and multicultural society. These movements, the ability for people and products to move across borders more easily, and the encounter, blending and contacts with local and indigenous populations are part of what is described as an increasingly globalized world. From this perspective, Norrland is what globalization researcher Appadurai defines as an “ethnoscape” (1996), shaped by various groups and their interaction, for instance local population, tourism, trade, migration etc. Ineluctably, this flow of people, cultures and languages shapes our societies in many ways. Many different cultures and languages have become part of the social image of our societies and share the same space. This change has led to an increased focus on language issues on national as well as international levels (Hyltenstam, Axelsson & Lindberg, 2012).

By studying this area, we will gain a deeper understanding of place-making processes and dynamics of inclusion - an understanding directly applicable to other geographic areas.

## 5 Selecting sites of investigation

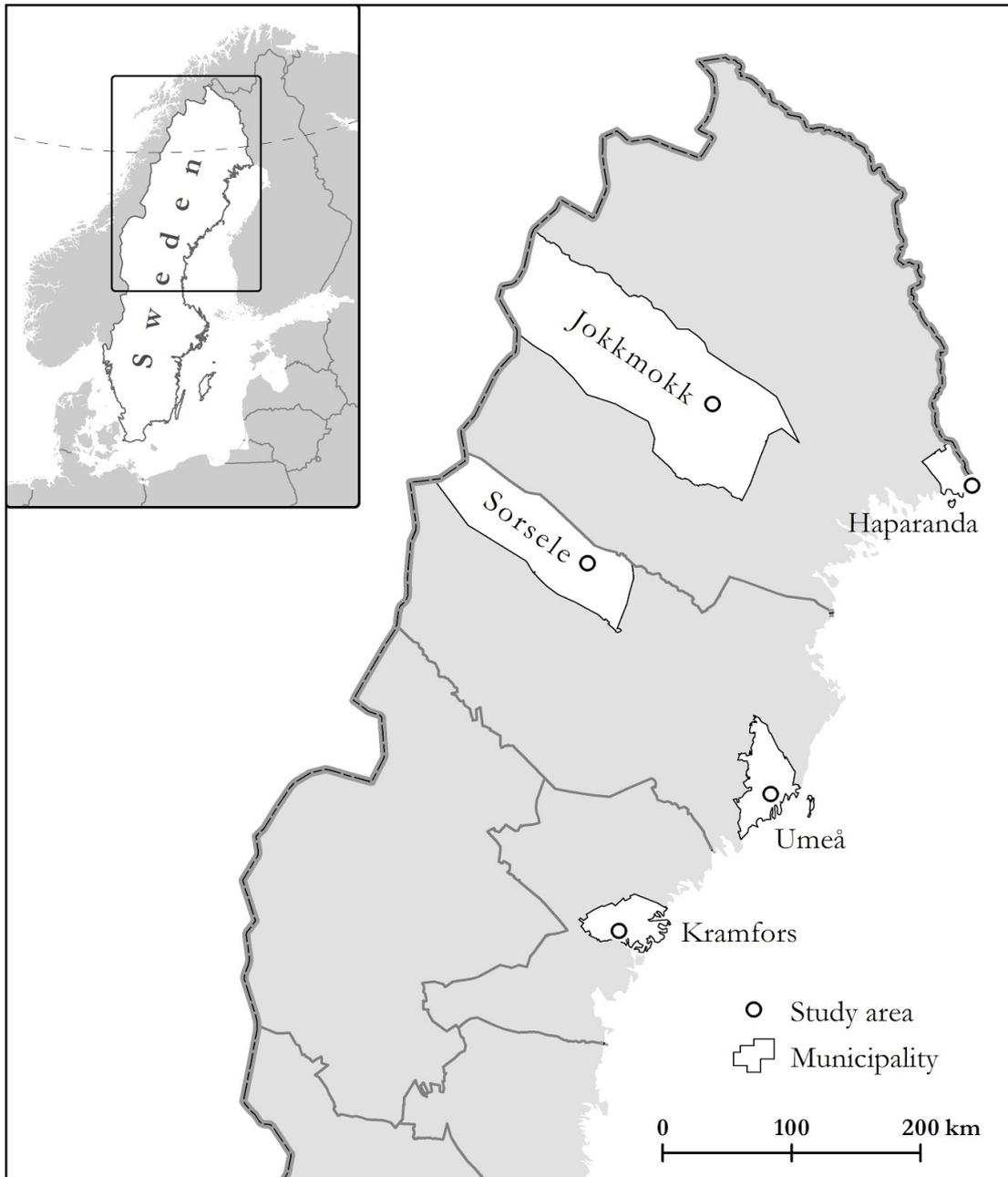
Given the different geographies of Norrland we have selected five different sites that reflect varying demographic and socioeconomic conditions of this part of the country: Umeå, Kramfors, Haparanda, Jokkmokk, and Sorsele (see Figure 1). The five sites have been selected according to number of inhabitants, percentage of inhabitants from other countries, tourism, global industry and trade. All five sites are urban areas (Swe: tätorter) according to the definition of urban areas by Statistics Sweden, i.e. more than 200 inhabitants and less than 200 metres between houses.

Linguistic landscapes are much more apparent in urban areas as compared to smaller settlements such as villages where signs are scarcer. It should also be kept in mind that most parts of the selected municipalities are uninhabited. Nevertheless, population wise the chosen sites are of varying size ranging from a few thousand people to nearly a hundred thousand people. The sites are regional centres in their municipalities which are local administrative areas in Sweden. For each site, data presented refer to the urban area or municipality level. All sites are administrative areas for one or more of the national minority languages Finnish, Meänkieli, and Sámi, i.e. municipalities that are listed as responsible for promoting and supporting a minority language according to the Swedish Act on National Minorities and Minority Languages (2009:724).

Umeå: After the establishment of Umeå University in 1965, the population of the municipality has more or less doubled (127,000 inhabitants 2018), and throughout recent years the annual increase amounts to 1,000-2,000 persons. Approximately 84,000 people reside in the city. This development has brought about various spin-off effects related to the local labour market, retail, housing and many other sectors of the city. The influx of

students has resulted in a population mean age of 39, which is two years lower than the average for Sweden. The young age profile and the “student atmosphere” of the city is likely linked to the emergence of many different streams of culture and activities. The local labour market is expanding and shows a great deal of variety in terms of industrial mix and occupations. Umeå has been an administrative area for Sámi since 2010 and Finnish since 2011, and, more recently (2020) for Meänkieli. Approximately 10% of the Umeå population is born abroad.

Kramfors: The city of Kramfors is located on the coast of Västernorrland (around 200 km south of Umeå). In comparison with an expanding Umeå, the population development of Kramfors has been negative. Since 1950, the number of inhabitants has more than halved, and today 18,400 people are residing in the municipality, of which 6,800 people live in the city. The public sector generates a large part of the employment - the municipality and Region Västernorrland (health care etc.) are two important employers in the municipality. There are many companies within the private sector. Two of them Mondi Dynäs and SCA Timber operate in the forest industry, which historically has been a dominating economic sector in the region. Nordhydraulic, Elpress and the insurance company Folksam are a few other major employers. The population decline is triggered by both negative natural change and net emigration, which in turn has had a hampering effect on the economy of the municipality. Kramfors is an administrative area for Finnish (2019). In Kramfors approximately 10% of the population is born overseas.



*Figure 1: Study areas in northern Sweden (Umeå, Kramfors, Haparanda, Jokkmokk, and Sorsele).*

Haparanda: The town of Haparanda is located on the Finnish border where the Torne river flows into the Gulf of Bothnia. The population numbers of the municipality increased

during the 1970s, 80- and up to the mid 90s (8,900 to 10,800). Thereafter there has been a population decline, and today close to 9,700 people reside in the municipality (6,700 in the urban area). Thanks to its strategic location Haparanda has been a historically important marketplace. This position was further strengthened in 2006 when Ikea opened its northernmost department store in Sweden serving customers from northern Sweden and northern Finland. In spite of this economic injection corresponding to more than 200 jobs in the store and many indirect jobs created in other parts of the local economy (e.g. services, transports etc.) the population trend is in decline. Haparanda is the administrative area for Finnish and Meänkieli. Population registers at Statistics Sweden indicate that more than a third of the Haparanda population was born in Finland. Overall, more than 40% is born abroad.

Jokkmokk: In area, the municipality of Jokkmokk is one of the largest municipalities in Sweden (19,330 km<sup>2</sup>). It is located in Lapland (the county of Norrbotten), and the town of Jokkmokk (appr. 2,800 inhabitants) is more or less on the Arctic circle. Today the number of inhabitants of the municipality amounts to 4,900 (0.28 inhabitants per km<sup>2</sup>; for comparison the population density of Sweden is approximately 23 inhabitants per km<sup>2</sup>) and the trend is negative. The population peak came in the early 1960s when 11,500 people lived there. Jokkmokk is known for the annual event “The Jokkmokk Winter Market” which is a mid-winter fair that celebrated its 400 year anniversary in 2005. Apart from hydropower production, which provides the rest of the country with a substantial share of needed electricity, the tourism industry is expanding together with increased entrepreneurship and new firms. Jokkmokk is an administrative area for Sámi, and approximately 11% of the people residing here are born abroad.

Sorsele: Similar to Jokkmokk, the Sorsele municipality, which is located in the northwest corner of the county of Västerbotten, covers a large area amounting to nearly 8,000 km<sup>2</sup>. In terms of population development the number of residents has almost halved since the 1960s. Today 2,500 people reside here (0.34 inhabitants per km<sup>2</sup>) of which 1,200 live in the urban centre of Sorsele. In comparison to national figures, the average age of the Sorsele population is more than 5 years older, close to the age of 47. The share of people with higher education is relatively low (15.5%), but the labour participation rate is relatively high (85.5%) and unemployment is low (4.9%). The labour market consists of many small firms - the biggest employer is Baseco Golv AB with 35 employees. Sorsele is an administrative area for Sámi. Approximately 11% of the population is born abroad.

## **6 Data collection**

Textual data is collected through ethnographic fieldwork in selected rural and urban environments with photo documentation of signs with orthographic language (official signs, private signs, commercial signs, billboards, street art...). We have limited the documentation to specific neighbourhoods selected according to their status as residential, commercial/industrial (city centre), local government areas (city hall, administration, libraries, schools, hospitals, universities etc.). Mobile devices with GPS-functionality will be used to map the data.

The ethnographic fieldwork, on an average of two days at each site, includes observations and interactions. So far (March 2020), we have documented two places, Umeå and Kramfors. The first fieldwork was the occasion to test and improve the systematic mode of documentation of the signs. The technical standard of the photographic data was also tested by using both a mobile phone and a camera to capture the photographs. Gorter (2019:50) suggests that “If researchers want to develop the LL field further, it is not only

about theories, themes, locations or methods, but also about improvement of the technical standards of one of their basic materials, the photographic data as presented in LL publications.” The test showed that the camera was the best option for getting a clear picture of the sign with a high-resolution image, which proved to be especially important when the picture needed to be enlarged to some extent. Phone cameras can be helpful for additional photos, for instance overview of a street etc, but their utility is limited. The camera used in the project is a Ricoh WG-6 with 20 effective megapixels and a 5x optical zoom starting from 28 mm.

In addition to the documentation of the signs, observations provide us with information about soundscapes, foodscapes and the use of public spaces, for instance what activities take place on the public square in the city centre. Interactions arise in specific induced situations, for instance when taking a lunch break or visiting tourist centres asking for guidance in identifying the main local tourist attractions, but also sometimes more informally and spontaneously. Along with fieldwork, our presence and way to move around the city (slowly and with a camera) attract the attention of for instance shop employees and other locals or passers-by. By being responsive to the reactions of people we encounter and proactively introducing ourselves and our project, spontaneous discussions take place and result not infrequently in providing us with contextual information about the city and its population. The focus of our fieldwork lies nonetheless in the collection and documentation of signs and does not strive for being a proper ethnography characterized by long-term observation and participant observation (Ingold 2014, 2017). In contrast, our fieldnotes, together with the other data collected, provide us with valuable contextual information about the various places. Through ethnographic data, there will be an intention to “capture broader and deeper explanations of people's reasons and rationale for selecting a particular LL in public spaces.” (Shohamy, 2019: 28).

## 6.1 Defining signs

The definition of what constitutes a sign in Linguistic Landscape Studies is often referred to the one by Landry and Bourghis (1997: 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. A more recent definition of Linguistic landscape is suggested by Gorter (2019) which is originally from the aims and scope of *Linguistic Landscape: An International Journal*, defined in 2015: “The dynamic field of Linguistic Landscape (LL) attempts to understand the motives, uses, ideologies, language varieties and contestations of multiple forms of ‘languages’ as they are displayed in public spaces.”

For the purpose of this project, a more specific definition of what constitutes a sign was initiated at an early stage and as part of our iterative research process. To be of interest for the project a sign should contain named languages, orthographic text either on its own or together with other symbols and pictures. Signs with only symbols and pictures were excluded. The text should also be physically bounded and the font colour, shape etc should be cohesive.

Guidelines for documentation were established as a result of the aforementioned pilot study and considerations made by the research team throughout the project. For example, we decided that each sign should be photographed separately to better facilitate the coding and analysis. Photos of the surroundings should also be included in order to provide the context of the signs, which is information that can be needed in the coding phase. Such photos of the surroundings are also a mode of documentation of the positions of different signs in relation to each other, and of the scale and size of the signs.

## **6.2 Coding signs**

All signs are categorized for linguistic code, status, space and function. See Figure 2 for a graphic illustration of the coding scheme. Discourses that emerge are interpreted as publicly displayed language and connected to issues concerning linguistic ideologies, practices, revitalization and inclusion. An additional goal with the coding is to develop a database where all signs are placed geographically on a map with filterable categories.

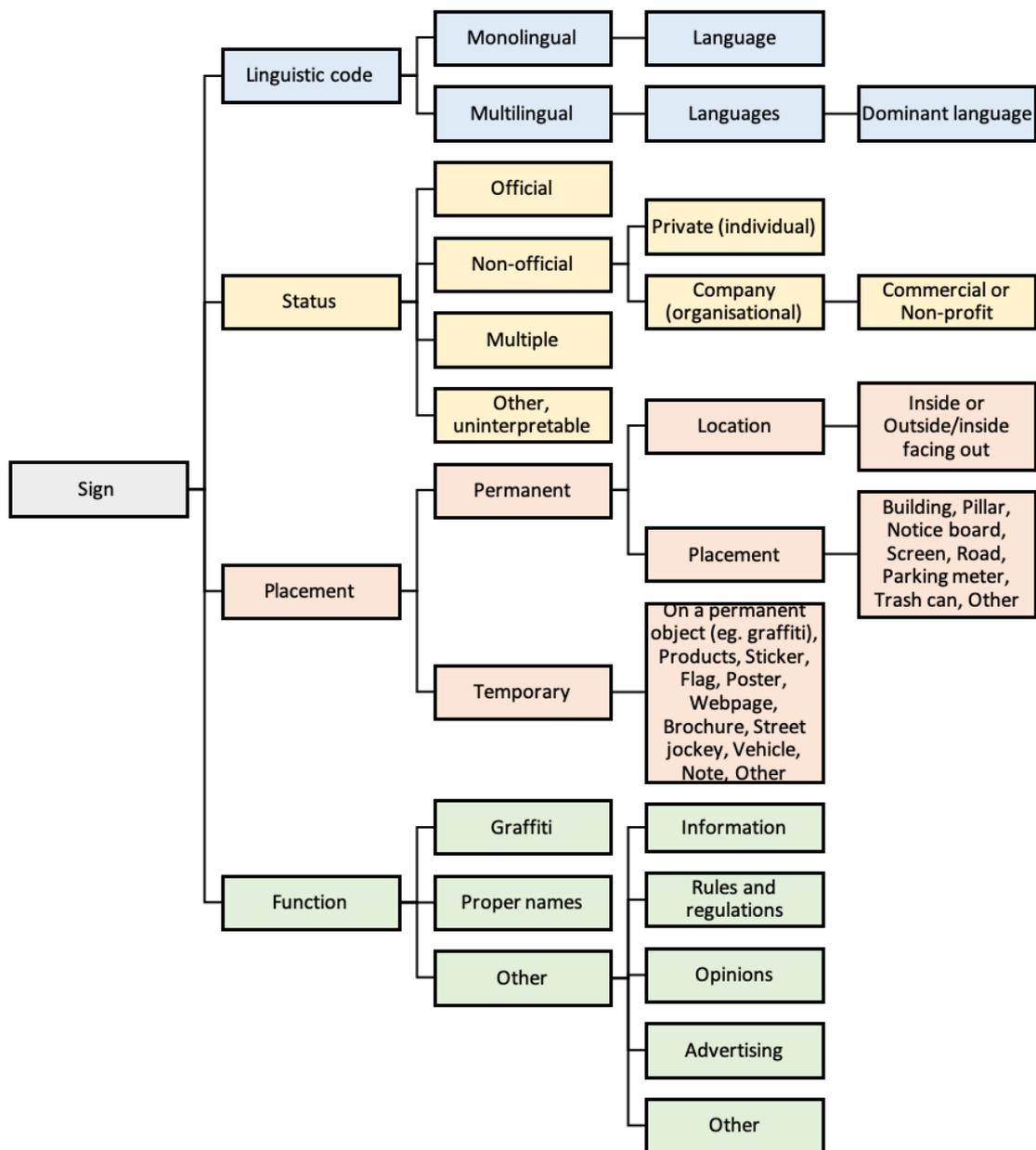


Figure 2. Graphic illustration of coding scheme for signs.

### 6.2.1. Linguistic code

In order to study balance, or imbalance, between (named) languages in particular spaces, our analysis defines language choice or language choices (Ben Said, 2007, p. 324) as well as

the hierarchy of languages and how languages relate to each other on signs (c.f. Scollon & Scollon, 2003; Cenoz & Gorter, 2006). Language dominance is evaluated based on the size, type, colour, position etc. of the different languages on the sign. In the interpretation of the meaning of signs we are inspired by multimodal theory and their comprehensive grammar of visual design (Kress & van Leeuwen, 2006) where font sizes, colour etc are part of the meaning.

The following categories are applied:

- multi/monolingual
- what language/s
- what dominant language/s (size, position)

#### *6.2.2 Status of signs*

Signs are divided into official, or top-down, and non-official or bottom-up depending on who has initiated them (Ben-Rafael et al, 2006; Ben Said, 2007, p. 324; 331-332). Top down signs typically represent governments and public authorities while bottom-up signs are results of private initiatives. In our analysis we divide initiators, or authors (compare Malinowski 2008), of signs into official and non-official authors. The non-official authors are further categorised into individual and organisational ones. Individual authors can best be exemplified by signs such as graffiti, notes on a billboard or stickers. Organisational authors are divided into companies and non-profit organisations, such as sports clubs, churches, foundations, etc. Two further categories acknowledge whether a sign has multiple authors or whether the author is 'other' or uninterpretable. In summary the following sender categories:

- Official

- Non-official
  - Private (individuals)
  - Company (organizational)
  - Non-profit organisation: association, community, foundation
- Multiple
- Other or uninterpretable

### *6.2.3. Placement of signs*

Signs are further coded according to the physical placement and the temporality of the sign. Signs are placed either inside, with the message on them facing inwards (e.g. inside a shop, a station, a library) or outwards (e.g. in a shop window), or outside. Further, signs are coded according to their placement directly on a permanent object (a building, sign post, the street etc.) and/or on a temporary object on top of a permanent one (e.g. a sticker on a building, or a candy wrapper in the street).

The notion of signs as permanent and temporary is similar to Pavlenko (2012), where the latter is characterised by a sign produced in a fragile material, such as paper. In addition, our ‘permanent sign’ category is inspired by what Scollon and Wong Scollon (2003) define as ‘situated’ signs, that is, signs that are expected according to norms. Our category ‘temporary signs’ bears similarities with their definition of signs as ‘transgressive’ if they are not expected according to norms (e.g. graffiti, stickers, garbage in the street, but the category also includes temporary objects (brochures in an information centre, a street jockey outside a restaurant etc.) that are expected according to norms. Scollon and Wong Scollon (2003) include a third category of signs, ‘decontextualized’ signs, which are signs that include only symbols, for example connection with a brand (e.g. Nike, McDonalds); these signs are not included in our analyses. Our focus is primarily to explore the visibility

of different named languages, and in order to define the named languages all signs must include written verbal language.

#### Permanent signs

- Location (direction of the message)
  - Outside or inside facing out
  - Inside
- Placement (fixed)
  - on building
  - pillar/upright
  - notice board
  - screen
  - road
  - parking meter, mail box etc.
  - Semi-movable objects (park bench, trash can)
  - other

#### Temporary signs

- no medium (directly on a fixed object; e.g. graffiti)
- products
- Sticker
- Flag
- poster
- webpage

- brochure
- street jockey
- vehicle
- note
- other

#### *6.2.4 Content/purpose and function*

We further code the signs from the perspective of their content or purpose and the function of the sign. What does the sign want to do or say? What is the meaning or content of the sign? The sign is coded according to which speech act it represents: to inform, regulate, convince or persuade (Austin, 1962). “Taken together, these perspectives on speech acts allow us to posit tentatively a notion of linguistic landscape authorship that is mutually constituted by individual intention and social convention.” (Malinowski, 2008: 116). The coding is done in two phases. Phase one includes two types of texts which are not coded as speech acts, e.g. graffiti and proper names. Graffiti is not coded as a speech act because the content or meaning of a piece of graffiti is often difficult for an outsider to understand. Company names are not coded as a speech act since they concern a name (see a further discussion about the coding of graffiti and proper names under Issues and challenges). If the sign is not one of these text types it is then coded according to speech act.

First: decide text type

- Graffiti
- Proper names (company, authority etc)
- If not one of those (speech acts)
  - Information

- Rules and regulations (directive speech acts?)
- Opinions (convince)
- Advertising (persuade)
- Other

## **7 Using register data to interpret results**

Socio-economic data based on individual data describe the characteristics of the population (foreign citizens, country of birth, residential address, address of workplace). The register used in the project includes the entire Swedish population (10 million individuals). For each individual there is information about demographic and socioeconomic data, which includes age, gender, country of origin, income, education level, occupation, employment (industry sector etc.), language background, school grades (including mother tongue education) etc. These data are longitudinal and provide information about, for example, each individual's residence, workplace, education, income, kinship, and how this individual- specific subset alters as the individual grows older. All in all, this implies that register data does not only contain a set of individual characteristics – as if the individuals were viewed in isolation – but rather individual traits in combination with other individuals (kinship as well as other individuals in the residential neighbourhood and at a workplace) and their characteristics.

In addition to the longitudinal dimension, data is also geo-referenced (250 square meters) which means that individuals' places of residence and workplaces can be observed on an annual basis. This enables us to link individuals' life situations during childhood through adolescence into adulthood to the geo-referenced data. For example, we will be able to analyse how particular neighbourhood characteristics (residents' education, occupations, workplaces, income, linguistic background etc.) have varied, or not, over time and relate these neighbourhood characteristics to the current linguistic landscape.

These data have been the basis for the selection of the five locations for collection of linguistic data and as background data to explain the distribution of languages in the public sphere. Geo-referenced individual-level data make it possible to define any geographic areas for which aggregated statistics can be calculated (e.g. mean income, number of individuals born abroad, number of different homeland language education etc.). In a next step, aggregated register data will be linked to the categories from the analysis of the signs. By means of statistical analysis (regression models), the use of languages will be explained by variables on three different levels: 1) sign characteristics (e.g. language, sender), 2) sign vicinity (e.g. indoor/outdoor, public/private building etc.), and 3) neighbourhood traits (e.g. socioeconomic, demographic and language attributes). Neighbourhoods will be defined as urban districts, villages etc.

## **8 Issues and challenges**

Whereas some of the categories in our coding scheme are intuitive and problematic, others have initiated methodological reflections in order to define the most appropriate and meaningful way to code the photos.

First, signs can have more than one function. A sign can be both about information and advertising, or both information and decree. Qualitative and contextual data can, to some extent, help us in identifying the main intended function, but they do not give us a complete answer. In cases where we identify more than one speech act in a sign they are coded either as equally prominent or as carrying primary or secondary functions.

Second, if vernacular signs such as street art are valuable for identifying language use at a personal level, they also bring some challenges. Graffiti “are a hybrid form of text and picture, and as many recent studies of multimodality (e.g., Kress and van Leeuwen 2001) have suggested, it may make no sense to try to separate text from image.” (Pennycook

2008:303) The interpretation of signs with graffiti is moreover complex due to the fact that they “are generally not intended to be interpretable by people outside the subculture of hip-hop/graff writers“ (id: 307). However, they are to a great extent about claiming space (van Treeck 2003) and thereby relevant to include in a study such as ours that focuses on place-making. In the coding process, we opted for the option to create a specific category for graffiti, thereby we recognize that a graffiti sign might have more than one function.

Third, proper names, such as names of companies etc. form yet another category of signs that can present challenges in the coding process as they have been discussed in previous research. Edelman (2008) writes for instance about an “impersonal multilingualism”, for instance in the case of advertisement, when the language used and the denotational message are less important than the connotations.

Proper names are particularly suitable for impersonal multilingualism. They do not have the purpose of transmitting factual information but are used in order to appeal to emotions. In other words, the connotation is more important than the denotation. (Edelman 2008: 144)

In previous research, it has also been discussed whether proper names should be considered as any other words (Schlick 2003), as neutral (Sjöholm 2009) or as the language in the context in which they occur (Korzilius, van Meurs & Hermans 2006).

An example for our datasets where we encounter this challenge is the case of “Dressmann”, a clothing store. The name (and the company) is originally Norwegian, but most people would probably not associate the name with Norwegian. If we choose to code this specific sign as Norwegian, it indicates a presence of the Norwegian language in the cityscape of the city (in this case Umeå). This might however be misleading since we can assume that the sign would only be perceived as Norwegian by the one who knows the

origin of the company. On the other hand, a Norwegian visitor might recognize and give attention to the presence of their language in the city. In cases like this we add a comment to be considered qualitatively and referred to in publication. Any cases that are difficult to code for one reason or another are important to discuss as they provide valuable information as to the formation of the linguistic landscape at a particular location and who may, or may not, feel invited to that place. We would not exclude the sign from our data, nor classify it as linguistically neutral.

## **9 Conclusion**

The first phase of our project has focused on developing a methodology in order to apply a mixed-method approach to linguistic landscapes in a relatively poorly researched geographical part of Sweden, Norrland. In this article, we share our considerations in designing an approach that includes socio-demographic data and ethnographic data (photos, observations and fieldnotes). Qualitative and quantitative data shed light on various aspects of place-making processes, and it is our ambition to illustrate how these data can, when pertinently combined, deepen our understanding of complex dynamics such as place-making through the materialization and exclusion of languages.

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### **Other resources**

Socioeconomic data used in this study originate from Individual-level register data produced by Statistics Sweden ([www.scb.se](http://www.scb.se))