***Dialectologia.*** **Special issue, III** *(2012), 189-207.*
*ISSN: 2013-2247*

*Received 1 October 2012.*
*Accepted 10 November 2011.*

# DIALECT CHANGE AND VARIATION: THE *ATLAS LINGÜÍSTICO DE LA PENÍNSULA IBÉRICA*[1]

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*"Geography reflects history, in other words, space reflects time"*
*W. A. Grootaers* (Fumio Inoue, *Dialectologia 2, 2011, 167*)

**Abstract**

Linguistic geography came into being as an auxiliary method of historical linguistics; subsequently as it established itself as an autonomous discipline it gradually shed its links to diachronic studies. With the development of sociolinguistics from the nineteen-sixties onwards, the data provided by projects in linguistic geography again became relevant to studies concerning language change. This paper examines the usefulness of language atlases for analysing language change in real time, taking the *Atlas Lingüístico de la Península Ibérica* (ALPI) as an example. A comparison of some of the ALPI data with atlases of more limited geographic scope produced from the fifties onwards will serve to illustrate the benefits of such analyses. Data in linguistic geography studies can be used to track changes over time as well as to determine the direction of their spread over space. The illustrations given show how language atlases may offer an invaluable data source for the study of language change and the history of individual language varieties.

**Keywords**

Linguistic geography, dialect variation, language change, Ibero-Romance languages, geographical diffusion, historical linguistics, Galician language

[1] This study was supported by the Project *Elaboración y edición de los materiales del Atlas Lingüístico de la Península Ibérica* of the Spanish CSIC (200410E604) and the Consellería de Educación e Ordenación Universitaria da Xunta de Galicia.

**CAMBIO E VARIACIÓN DIALECTAL: O ATLAS LINGÜÍSTICO DE LA PENÍNSULA IBÉRICA**

**Resumo**

A xeolingüística naceu como método auxiliar da lingüística histórica e segundo se foi afianzando como disciplina autónoma foi perdendo a vinculación cos estudos diacrónicos. Co desenvolvemento da sociolingüística a partir dos anos sesenta do século pasado, os materiais ofrecidos polos proxectos de xeografía lingüística volveron tomarse como referencia para estudos sobre o cambio lingüístico. Esta contribución reflexiona sobre a utilidade dos atlas lingüísticos para realizar análises sobre o cambio lingüístico en tempo real e toma como ilustración o *Atlas Lingüístico de la Península Ibérica* (ALPI). A comparación dalgúns materiais do ALPI cos doutros atlas de menos alcance realizados a partir dos anos cincuenta do século pasado serve para ilustrar o rendemento destas análises. A información extraída das obras xeolingüísticas permite comprobar a evolución temporal dos cambios e tamén o sentido da súa difusión no espazo. Os exemplos utilizados deixan ver como os atlas lingüísticos poden ser unha fonte de información insubstituíble para a análise do cambio lingüístico e da historia das variedades lingüísticas.

**Palabras chave**

Xeolingüística, variación dialectal, cambio lingüístico, linguas iberorromances, difusión xeográfica, lingüística histórica, lingua galega

## 1. Introduction

The scientific study of dialect varieties originated from the Neogrammarians' interest in testing out their hypotheses about the regularity of sound change (McDavid 1990). In the earliest linguistic geography studies, an attempt was made to discover relic forms which were thought to have survived in the "founder dialects", rural varieties spoken in the most remote areas. Data collection was carried out with urgency, for the social and demographic changes taking place in the late nineteenth century augured the rapid decline of such conservative language varieties (Szmrecsanyi 2012). The results obtained in the first language atlases were disappointing for their instigators, as they failed to bear out their hypotheses about the regularity of change; they also came to realise that dialects are not such discrete entities as they had believed them to be. Yet the upshot was not an abandonment of the connection between linguistic geography and historical linguistics, but just the opposite. Language atlases and dialect studies in general became a highly relevant source of data for diachronic studies (Trudgill 1974, 1990; Tillery & Bailey 2003). Dialect maps brought new insights about the timing and

direction of language change. The areal or spatial norms posited by Bartoli represent one of the best examples of the usefulness of closely linking spatial and historical linguistics (Bartoli 1925, 1945) and the theoretical consequences of such a link.

Despite this productive alliance, for a long time afterwards written texts continued to provide the main source of data for historical linguistics. Such materials make it possible to obtain historical records which not only illustrate language change but also help to develop hypotheses about ongoing changes in languages over time. Research into language change based on written texts focuses on isolated changes that are thought to have been completed. In Wagener's words, the study of change through written texts is a "post-mortem activity" (Wagener 2002). Curiously, it was studies of sound change that first, and most successfully, made use of written sources, to judge from the volume of studies produced at least.

It was possible to compare the results yielded by linguistic geography projects and language atlases with those obtained from written texts, but it would have been very daring to draw solid conclusions from such widely differing types of data which rarely provided an opportunity for direct comparison. Because linguistic geography was a relatively new discipline, older records making comparative analyses possible were lacking. Moreover, language atlas projects were invariably such laborious and costly enterprises that carrying out more than one geolinguistic survey of the same territory was an unaffordable luxury.

When the first studies of language change and variation were undertaken in the nineteen-sixties, oral language data permitting a comparative diachronic study were still a rarity. The solution found was to choose speakers of different ages in the same community and interpret observed differences as indications of ongoing change (Bailey, Wilke, Tillery & Sand 1991). Such apparent-time studies were based on the assumption that linguistic differences noticed at a given time between individuals of different ages could reveal the speech patterns of the preceding and following generations (Chambers & Trudgill 1980). This method was used as a surrogate for historical evidence, and it was assumed that it would not always offer results which could be confirmed by the passage of time (Bailey 2002: 314). In the event of data being available which allowed of a comparison with synchronic studies, scholars were confronted by the problem of obvious methodological differences in the ways data had been obtained. The methodological principles applied in geolinguistic studies differed greatly from those

used in sociolinguistic research. One of the issues of greatest concern to researchers, which the first dialectologists had already grappled with, was the effects of ongoing social change and population movements. The drastic demographic changes that occurred in western societies throughout the twentieth century made it nearly impossible to replicate the methods Gilliéron and Wenker had employed in the late nineteenth and early twentieth centuries. There was a need for a change of procedures, and indeed of objectives (Tillery, Winkle & Bailey 2004).

## 2. Language atlases of the Iberian Peninsula and the study of language change

The methodological changes that began to come into effect in the United States in studies of language variation from the sixties onwards spread through the scientific community at a rather uneven pace. In the area of linguistic geography, these procedural changes and adjustments were restrained further by an acrimonious debate between dialectologists and sociolinguists. On account of the discipline's loss of prestige and the resulting delay in its development and methodological overhauling, dialectology came out the worse for this dispute, which was often reminiscent of the classical argument between the new paradigm and the old. In consequence, despite theoretical and methodological progress during the twentieth century, the methods introduced by Gilliéron and Wenker at the end of the nineteenth century were still being used almost unchanged in studies carried out a hundred years later, with varying success and results. These changes affected the quality of data and the way they were recorded; the characteristics of the informants and the kind of information obtained, however, remained the same for a long time.[2] Basically the changes amounted to the adoption of technological innovations (e.g. tape-recorded interviews), a broadening of the target population and the use of a more sophisticated system of informant selection.

The renovation that English dialectology underwent in the sixties and seventies was slow to filter through to language mapping projects in the Romance area of Europe (Tillery, Winkle & Bailey 2004). The introductions and indexes of map of the various

[2] Changes involved the number of interviewers taking part in each interview, the procedure for recording information (phonographic recording) and the use of aids for data elicitation. It was only from the sixties on that a noteworthy change came about with the application of a pluridemensional approach (Kehrin 2012).

projects that were developed in the Iberian Peninsula during the twentieth century bear ample witness to the maintenance of many of the same principles. In spite of far-reaching changes in the socioeconomic and demographic landscape of Spain and Portugal throughout the twentieth century,[3] the sociocultural profile of their ideal informants was quite similar to that applied in the first works of linguistic cartography: basically, informants were from rural communities and small towns. Furthermore, such studies mostly retained their hybrid character, partly linguistic, partly ethnolinguistic, as is evident from even a cursory glance at the content of field questionnaires (González 1999).

Yet these circumstances, much criticised by some circles in linguistics, have produced some happy consequences, for we now have a good number of data sets that are susceptible to comparison through real-time approaches. Language atlases and unpublished data from linguistic geography projects undertaken at different times over the last century, covering the varieties of Romance spoken in the Iberian Peninsula, constitute a data source of enormous value for research into language change. The methodological similarity of the surveys makes comparison between the data easier and gives the results a certain degree of reliability. Indeed, most of these studies overcome many of the objections that have been made about the data generally used in real-time studies (McDavid 1990; Tillery & Bailey 2003).

The first work that serves as a landmark for analysing language change in all the Romance varieties of the Iberian Peninsula is the *Atlas Lingüístico de la Península Ibérica* (ALPI).[4] By taking ALPI as marking the timeline's starting point, real-time analyses may be performed on practically every geographical variety in the peninsula, which make it possible to study how phonetic, morphological, syntactic and lexical features have changed over time and spread over space in these varieties of Romance, as well as to study word meanings and ethnographic topics.

Fieldwork for ALPI began in 1931 under Navarro Tomás' leadership, with three teams of researchers who shared out 527 survey localities among themselves (Heap

[3] This is made evident by a comparison of population distributions in the two countries between the beginning and the end of the century. In the early twentieth century 69% of the population of Spain and 89% of that of Portugal lived in towns having fewer than 10,000 inhabitants, while by the end of the century these percentages had dropped to 24% and 46% respectively (Sources: INE Spain and INE Portugal).

[4] For the Catalan language area there is also the earlier data collection by Antoni Griera for the *Atlas Lingüístic de Catalunya* (ALC).

2008). Most of the data were collected between 1931 and 1935. After the Spanish Civil War, when the project could at last be resumed, although now without its director, unfinished survey work at localities in Portugal, Asturias and the Catalan area was completed.[5] This took place between 1947 and 1954. The first results were published in 1962 as a volume on phonetics consisting of 76 maps, which is the only part of the survey so far to have seen the light of day (ALPI 1962). ALPI had been designed by Menéndez Pidal and Navarro Tomás as an atlas of wide scope building on the experience of the French and Italian-Swiss atlases (García Mounton 2006), focusing on the study of rural speech varieties in the peninsula. Some of the project's data were placed on line in 2003 (Heap 2003 and 2008) and will be available in a database format when the "Elaboración y edición de los materiales del *Atlas Lingüístico de la Península Ibérica*" project has been completed (García Mouton 2010).

A year before the ALPI volume was published, the first volume of the *Atlas Lingüístico y Etnográfico de Andalucía* (ALEA) appeared. This study in linguistic cartography was the first fruit of a regional atlas project led by Manuel Alvar which proposed to follow a model introduced in France by Dauzat; this was an initiative to develop a new French language atlas (the *Nouvel Atlas Linguistique de la France par Régions*) based on a set of regional atlases (García Mouton 2006).[6] This led to a series of language atlases that were published from 1961 to 1999: the *Atlas Lingüístico y Etnográfico de Andalucía*, the *Atlas lingüístico de los marineros peninsulares*, the *Atlas Lingüístico y Etnográfico de las Islas Canarias*, the *Atlas Lingüístico y Etnográfico de Aragón, Navarra y Rioja*, the *Atlas Lingüístico y Etnográfico de Cantabria*, and the *Atlas Lingüístico de Castilla y León* (Alvar 1961-1973, 1974, 1975-1978, 1979-1983, 1995, 1999). In order to help fill out the dialect picture for the domain of Spanish, in 1987 García Mouton and Moreno Fernández commenced work on a project to create a linguistic (and ethnographic) atlas of Castilla-La Mancha (García Mouton & Moreno Fernández 1987). This atlas is being created using new methodological principles, in particular in the matter of informant selection (García Mouton & Moreno Fernández 1993). The data started being published on line in 2003. The same year, a monographic

[5] The places covered in the ALPI survey were distributed across mainland Spain and Portugal, the Balearic Islands and Roussillon (the Catalan-speaking region of France).

[6] Alvar also hoped to complete a new Iberian language atlas (the *Atlas Linguístico de España y Portugal*). The project, which did not reach fruition (Julià Luna 2007), was to bring together scholars from different regions: Emilio Alarcos (Asturias), Antoni Badía (Catalan area), Tomas Buesa (Aragón), Constantino García (Galicia), Antonio Llorente (León) and Manuel Alvar (Castile, Andalusia and the Canary Islands).

study of the rural lexicon of Extremadura was published (González Salgado 2003); this is the product of a linguistic cartography project that was begun by González Salgado in 1992 as a contribution towards the goal of a linguistic and ethnographic atlas of Extremadura. The initiative (González Salgado 2000) was modelled on the projects previously developed by Alvar. These data are also available online (González Salgado 2005-2012). Such a range of projects means that from the sixties onwards almost the whole territory of the Spanish varieties included in ALPI has been covered. The only autonomous communities that now lack consultable data from linguistic geography projects, and cannot therefore be included yet in comparative studies with ALPI, are Madrid,[7] Murcia[8] and Asturias.

Linguistic geography projects in other linguistic areas were also undertaken around about the same time. In the Catalan-speaking geographical domain, surveying work began in 1964 to create the *Atles Lingüístic del Domini Català*, following the same general and methodological lines as the Spanish regional atlases. The first volume of maps produced by this project was published in 2001 (Veny & Pons 2001). In the Galician language area fieldwork for the *Atlas Lingüístico Galego* (ALGa) began in 1974. This project started its life linked to Alvar's ALEP and covered Galician-speaking localities in the four provinces of Galicia and in border areas of Asturias, León and Zamora. The first volume of ALGa came out in 1990 (García & Santamarina 1990). In Portugal, notwithstanding earlier attempts, it was only in late 1973 that data collection began for the purpose of developing a language atlas (Saramago 1994). Data collection for the *Atlas Linguístico-Etnográfico de Portugal e da Galiza* was completed in 2004, and several studies have been published based on those data (Saramago 2006).

## 3. Using the ALPI data to study language change

Traditional dialectology gives away its historical bias in the way it selects informants, which favours isolated communities and the study of folk terms (Tillery &

[7] See however the *Atlas Dialectal de Madrid* (ADiM), García Mouton & Molina Martos (en prensa). Madrid: CSIC, also García Mouton (this volume).
[8] Alvar also worked on a project for an *Atlas Lingüístico y Etnográfico de Murcia* which apparently was never finished (Julià Luna 2007).

Bailey 2003). Even though it defines itself as a synchronic discipline, dialect differences are typically interpreted as reflections of distinct historical varieties. Hence language atlases and linguistic geography projects can provide an invaluable source of data for historical studies, and in particular for research into language change. The existence of records of the spoken language made at different times using very similar method allows us to detect changes, analyse their development, investigate their geographical distribution and discover patterns of change. Geolinguistic research makes data available to variationist linguistics which provide a complement to apparent-time approaches. As various researchers have already shown (Bailey 2002), both approaches are mutually complementary and together provide a fuller picture of the phenomena of language change.

As always in dialectological studies, the geolinguistic data must be handled and interpreted with due caution. The main difficulties that arise when comparing data from different sources relate to methodological issues. Differences in the use of phonetic symbols, distinct density of observations and divergent questionnaires can all be obstacles to meaningful data comparison.

A similar system of phonetic transcription was used in all the studies of linguistic geography carried out in the Iberian Peninsula throughout the twentieth century when recording informants' responses. The basic phonetic alphabet used by default in most Iberian Romance projects is that proposed in 1915 by Navarro Tomás in the *Revista Filología Española* (REF 1915), although it has been differently adapted.[9] However, there are important differences between ALPI (with a complicated system that made use of a large number of symbols) and subsequent studies with regard to the complexity of these adaptations. Regarding the territorial distribution of localities surveyed there are also obvious differences between ALPI, an atlas of a broad domain with a less dense network of geographical points, and the rest of the atlases which cover far smaller areas and consequently have denser networks (González 1999). Any interpretation of perceived differences and similarities between the different data has to take into account both of these issues. Consequently, it is best if comparisons do not focus on fine phonetic nuances or ones that are difficult to perceive, and comments on the distribution of forms must always take the differences of territorial coverage of the various projects

[9] Many of the studies converted this to the IPA system upon publication.

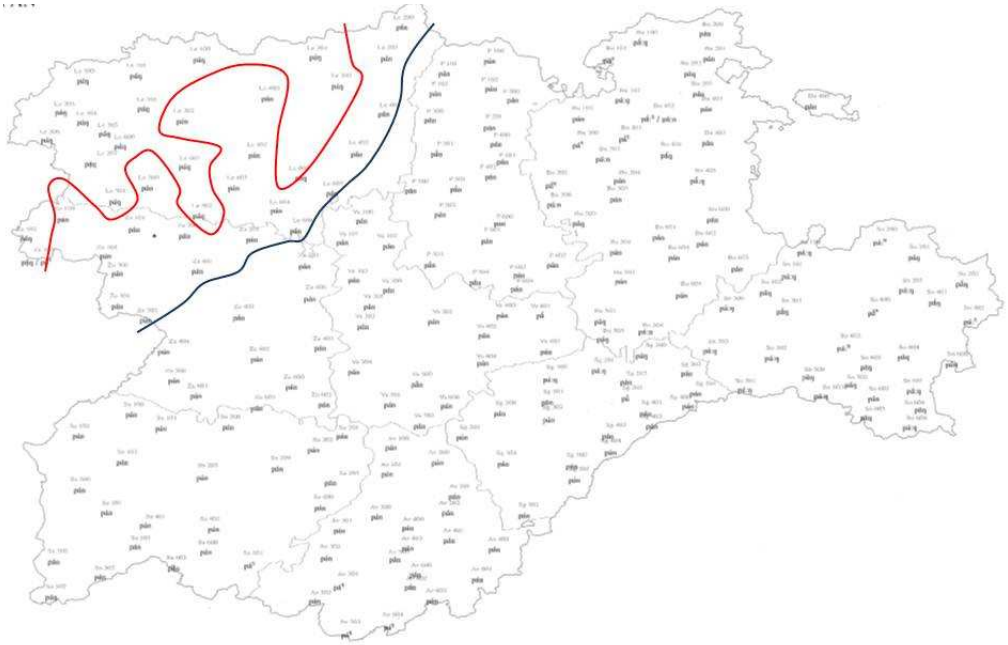
into consideration.[10] In the matter of questionnaire content, the disparities between projects are much less of a problem because the questions and even the structure of questionnaires were borrowed from one project to the next, and in spite of certain adaptations and additions a large number of questions are common to them all, making comparative studies all the more reliable.

To illustrate the usefulness of contrastive study of these geolinguistic surveys of varieties of Iberian Romance, I have selected three examples that involve projects covering the western part of the peninsula. In all three cases the information collected in ALPI is compared to that recorded in later projects. The results yielded by this small sampling show the time depth to be enough to detect some of the overall trends affecting dialect varieties: maintenance of a variety, reduction of a variety, and expansion of a variety.

### *3.1. The velar nasal: ALPI and ALCyL*

Velar nasals in syllable-final position are often identified as a defining phonetic feature of certain varieties of Iberian Romance. Besides being common to all varieties of Galician, this feature has been detected in Asturian (Zamora & Guitart 1988; Harris-Northall 1990; D'Introno, Del Teso & Weston 1995) and other varieties spoken in western and southern parts of Spain's territory (i.e. Asturias, León, Extremadura and Andalusia: Zamora Vicente 1967). Examining two maps from the published volume of ALPI, "aguijón" and "crin", Salvador concluded that the velar nasal was found, in the early twentieth century, in "Galicia, León, Asturias, western Santander, Cáceres and southern Badajoz (but not Salamanca and northern Badajoz), some places in Avila and western Andalusia" (Salvador 1987: 145).[11] He called for a detailed study to be carried out to establish the extent and expansion of this sound in European Spanish. Later research also indicated that a "markedly velar" nasal may be heard in the province of León (Borrego Nieto 1996) and generally in varieties of Spanish in the west and south of the Iberian Peninsula (Hualde 2005: 176).

[10] González (1999) presents a comparative analysis of the density of localities surveyed by the various Iberian language atlas projects.
[11] Our translation, here and throughout.



Map 1. The velar nasal: ALPI (blue isogloss) and ALCyL (red isogloss).

An analysis of language data from the *Atlas Lingüístico de la Península Ibérica* (ALPI) and the *Atlas Lingüístico de Castilla y León* (ALCyL) for the provinces of León and Zamora helps to identify the direction of change affecting the nasal in question over part of the century in a limited area of the west of the peninsula. ALPI has data recorded in the 1930s in twenty-five rural localities in the two provinces. The ALCyL was published in 1999 and provides data for fifty localities in the provinces of León and Zamora. Comparison of the distribution of the velar nasal consonant in the data from these two projects reveals its development in these western varieties during the twentieth century. Map 1 shows the responses to items 178 ("aguijón") and 189 ("crin") in ALPI and the item "pan" in ALCyL.[12] The blue isogloss is drawn according to data from ALPI; the red isogloss represents the ALCyL data. In both cases, the area where responses with a velar nasal were collected is located in the north-western corner of the territory. In the 1930s this area included the whole of the province of León and a little less than the north-western half of the province of Zamora. Half a century later, the area with the velar nasal had shrunk significantly: it was only recorded in the very westernmost part of Zamora (in two localities) and in places in León located in the most mountainous part of the north and west of the province. There has taken place, in an interval of a little over fifty years that separates the two projects, a process of

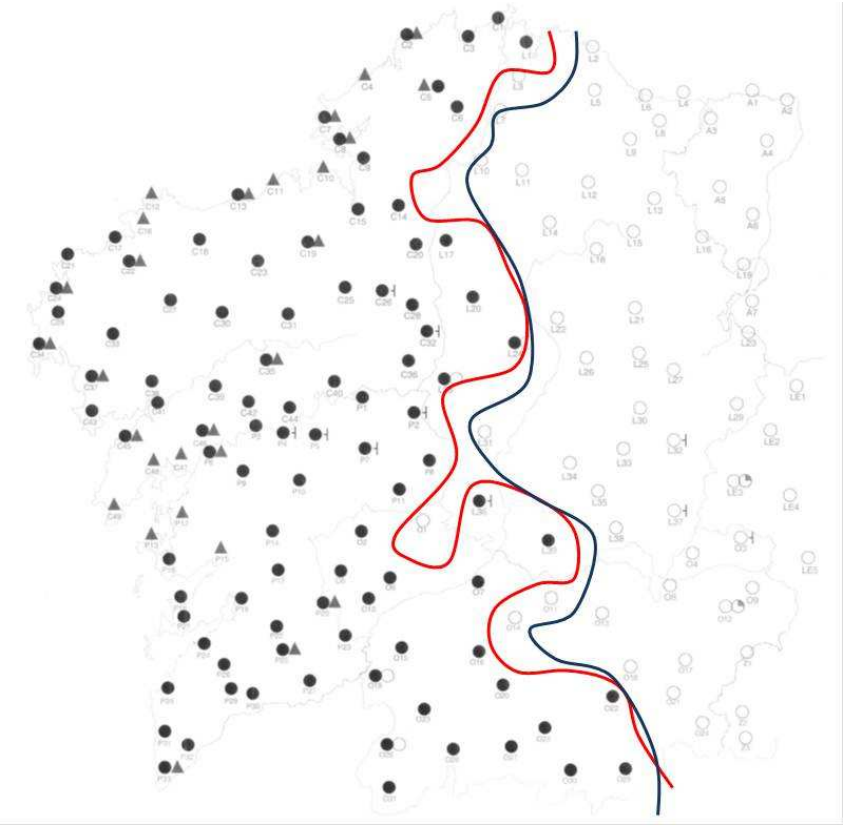
[12] The ALCyL map was used as the base map.

substitution of an alveolar nasal consonant, a typical feature of central varieties of Spanish, for the velar consonant, a characteristic of Leonese. The spread of the alveolar nasal has thus progressed from east to west. From what we see on the map, the rate of spread appears to have been faster and more far-reaching in the province of Zamora and the central part of the province of León. In the latter case, the city of León may have exerted an influence.[13] To the west, the area where the velar nasal is maintained is in contact, along the west and north, with Galician, Portuguese and Asturian varieties in which the same sound is recorded.[14]

### *3.2. Gheada in Galician: ALPI and ALGa*

One area within Galician is traditionally identified with a feature consisting of a voiceless glottal or velar fricative which dialectologists often make much of, considering it an important phonetic characteristic differentiating western varieties of Galician, besides which it is also notably salient in the perception of speakers (Sousa 2009). According to ALGa, the area with *gheada* (as this feature is commonly denominated) covers the western half of the Galician territory. In varieties in the eastern half of Galicia the sound that corresponds to it is a voiced velar stop. More recent dialectal and sociolinguistic studies are in general agreement that the area with gheada is receding (cf. Rodríguez Lorenzo, this volume). Data for Galician localities from ALPI and ALGa allow us to trace this development between the 1930s and the 1970s. The Galician data in ALPI were collected between 1934 and 1935 in fifty-three localities throughout the four Galician provinces. Fieldwork for ALGa was carried out in 142 localities within the territory of Galician[15] between 1974 and 1976.

[13] Morala (2002) presents a general discussion of the extent of certain phonetic isoglosses based on data from ALCyL.
[14] Published data from ALBI (Gutiérrez Tuñón 2002) show that this sound is still shared by the whole Leonese district of El Bierzo (ALBI under "hurón/furón", map 285).
[15] ALGa has a network of 167 localities, 142 of which are within the administrative unit of Galicia, while 25 are in border areas of the Principality of Asturias and the provinces of León and Zamora.



Map 2. Gheada in Galician (ALPI, blue isogloss, and ALGa, red isogloss)

Map 2 shows the distribution of two varieties in terms of gheada.[16] The blue isogloss is drawn from data found in ALPI and the red isogloss was obtained from the ALGa data. The area with gheada is located to the left of the isoglosses, grouping together both glottal and velar articulations of the voiceless fricative, while to their right is the variety without gheada, with a voiced velar stop in the same positions. The two varieties that are separated by the isoglosses occupy two vertical strips of territory. The isoglosses emerging from analysis of the two data sources are almost superimposed. The cases where there is any distance between the two are mostly due to differing distribution and density of the networks of localities covered by the two atlas surveys. Thus no significant changes seem to have occurred during the forty years that separate the two studies in the geographical distribution of the varieties[17] that are differentiated by this phonetic feature. Based on these facts it may be stated that the geographical

[16] The ALGa map was used as the base map for Maps 2 and 3.

[17] It can be surmised from informants' comments noted on both survey questionnaires that the variety without gheada is spreading westwards. Some informants observe in their responses that gheada is a trait of elderly speakers or say it was used formerly but is no longer heard in their locality.

distribution of the geolinguistic varieties with gheada remained stable in rural Galician speech during most of the twentieth century. Data provided by Rodríguez Lorenzo's paper in this volume reveal that the geographical distribution of the sounds that are concerned in gheada began to be more perceptibly altered from the last quarter of the twentieth century on. The distribution began to change from the 1970s onwards with the velar stop seemingly replacing the sounds known as gheada quite quickly.

### *3.3. Loanwords in Galician: ALPI and ALGa*

Language atlases are an excellent source of information for studying the impact in language communities of social, cultural and historical changes on language. Although such changes may affect any level of linguistic structure, without a doubt the lexicon is the level where changes of this kind make themselves felt most clearly and immediately. A very obvious example of the connection between social change and changes in the language is provided by changes in the names of certain foods in western culture during the twentieth century (Albala 2002). The urbanization of western society which had commenced in previous centuries, industrialization, and technological and social advances affecting agriculture all had a direct effect on the number and meaning of names for everyday foods in most European languages.[18]

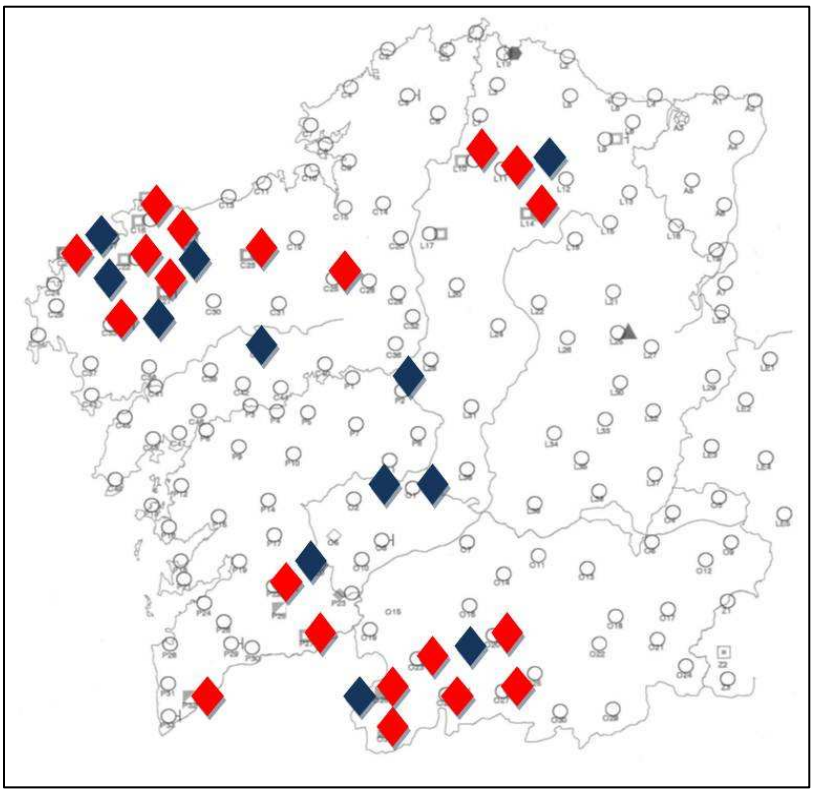
The atlases also reveal changes resulting from situations of language contact or contact between societies and cultures. The sociolinguistic history of the languages of the area has turned the Iberian Peninsula into a fertile field of study for the analysis of such changes.

Research on lexical borrowing between languages is usually associated more with sociolinguistics and the study of languages in contact than with dialectology, which has traditionally been concerned with lexical transfers among varieties of a single language, and has mostly been interested in the spread of certain forms over space and time. It is less commonplace for dialectologists to take an interest in the study of lexical transfers

[18] The extent of these changes in different varieties of Romance of the Iberian Peninsula can be studied in considerable detail on the basis of a comparison of responses in ALPI to item 695, "Names and substances of the most common foods", with the responses recorded in later atlases.

between varieties considered to belong to different languages and the way in which new words spread across the area.

It is possible to use data in the language atlases as a source for studies of the consequences of language contact and contact between varieties, both over space and time, provided there are data recorded at different points in time. Such studies can contribute to the sociolinguistic history of varieties and may provide insight into the development of changes in language and the influence of one language on another over time.



Map 3. Galician *xeonllo* for 'knee' in Galicia (ALPI, blue diamonds, and ALGa, red)

Map 3 displays the distribution of words for "knee" in Galician. The Spanish word *rodilla* predominates in both ALPI and ALGa, from which it may be surmised that the use of the loanword for this body part is not new. The blue (ALPI) and red (ALGa) diamond symbols on the map indicate places where forms related to the traditional Galician designation *xeonllo* have been retained. Despite the substantial difference in the number of localities studied in each project (in Galicia, 53 versus 142), the distribution of the traditional form in the two periods helps to identify an area in the centre of Galicia where the original Galician form was still used in the 1930s, whereas

forty years later the Spanish word had replaced the Galician one in this area also. Another thing shown by the distribution on the map of data from each atlas is which areas are most resistant to the shift from the traditional word to the Spanish loan, namely the north-western end of the province of Coruña, the southeast of Ourense province and a small region in the north of the province of Lugo.

Analysing data from the two projects helps us to determine roughly the loan's antiquity, identify the areas most resistant to the change (i.e. the most conservative areas) and recognise and locate changes that have occurred during the forty-year period. It is clearly seen that in this case and in the first one we looked at (that of the velar nasal) language change has not affected all parts of the territory in the same way, nor at the same rate. It would be necessary to establish the relative degree of isolation and social stability of these communities to find out whether Trudgill's (2011: 2-3) axiom, and that of other scholars before him, is borne out here, to the effect that conservative language varieties generally tend to be those which are geographically isolated and socially stable.

## 4. Conclusions

This discussion has attempted to provide a demonstration of the usefulness and advantages of geolinguistic data for the study of change and development of languages and language varieties over time. I began by pointing out that linguistic geography projects are such laborious and costly undertakings that it is very difficult for a single territory to be the object of such studies on more than one occasion. It is very fortunate for researchers interested in Iberian Romance that a good number of sources of this kind are currently available covering different parts of the peninsula and gathered at different times. Even though the studies only cover a period of a hundred years, because of their characteristics they constitute valuable source material for research into language change in real time.

Of all these surveys, the *Atlas Lingüístico de la Península Ibérica* is of particular value and special note given its historical circumstances. Once all the data of this project are made available to researchers (García Mouton 2010), it will be possible to perform more far-reaching analyses and to examine more linguistic features of the

language varieties of the Iberian Peninsula. Analyses of real-time change based on the data will help us to describe and understand better the linguistic history of the peninsula in the twentieth century and in earlier periods too.[19] The wealth of information brought together in ALPI offers an opportunity to watch the language develop and observe the progress and extent of changes through evidence provided by direct witnesses.

Making full use of these data is the best way for linguists to pay tribute to the researches who invested so much intellectual effort and hard work in the project of the linguistic atlas of the Iberian Peninsula.

## References

ALBALA, K. (2003) *Food in Early Modern Europe*, Greenwood Press: Westport CT.

ALPI = T. NAVARRO TOMÁS (1962) *Atlas Lingüístico de la Península Ibérica. vol. I. Fonética*, Madrid: CSIC.

ALVAR, M. (1961-1973) *Atlas lingüístico y etnográfico de Andalucía*, Granada: Universidad de Granada, 6 vols.

ALVAR, M. (1974) *Atlas lingüístico de los marineros peninsulares*, Madrid: Instituto Histórico de Marina del CSIC.

ALVAR, M. (1975-1978) *Atlas lingüístico y etnográfico de las Islas Canarias*, Madrid: La Muralla, 3 vols.

ALVAR, M. (1979-1983) *Atlas lingüístico y etnográfico de Aragón, Navarra y Rioja*, Madrid: La Muralla [con la colaboración de A. LLORENTE, T. BUESA y E. ALVA].

ALVAR, M. (1995) *Atlas lingüístico y etnográfico de Cantabria*, Madrid: Arco Libros, 2 vols.

ALVAR, M. (1999) *Atlas lingüístico de Castilla y León*, Salamanca: Junta de Castilla y León. Consejería de Educación y Cultura, 3 vols.

BAILEY, G., T. WILKE, J. TILLERY & L. SAND (1991) "The apparent time construct", *Language Variation and Change*, 3, 241-264.

BAILEY, G. (2002) "Real and Apparent Time", in J. K. CHAMBERS, P. TRUDGILL, & N. SCHILLING-ESTES (eds.), *The Handbook of Language Variation and Change*, Oxford, England: Blackwell, 312-331.

BARTOLI, M. (1925) *Introduzione alla neolinguistica*, Geneva: L.S. Olschki.

BARTOLI, M. (1945) *Saggi di linguistica spaziale*, Torino: V. Bona.

[19] A striking example of the usefulness of such data is provided by the examples used by Fernández Ordóñez in tracing the history of the formation of European Spanish (Fernández-Ordóñez 2011).

BORREGO NIETO, J. (1996) "Leonés", in M. ALVAR (ed.), *Manual de dialectología hispánica. El Español de España*, Madrid: Ariel, 139-158.

CHAMBERS, J. K. & P. TRUDGILL (1980) *Dialectology*, Cambridge: Cambridge University Press.

D'INTRONO, F., E. DEL TESO & R. WESTON (1995) *Fonética y fonología actual del español*, Madrid: Cátedra

FERNÁNDEZ ORDOÑEZ, I. (2011) *La lengua de Castilla y la formación del español*, Madrid: Real Academia Española.

GARCÍA, C. & A. SANTAMARINA (1990-) *Atlas Lingüístico Galego*, A Coruña: Fundación Barrié de la Maza - Instituto da Lingua Galega.

GARCÍA MOUTON, P. & F. MORENO FERNÁNDEZ (1987-) *Atlas lingüístico y etnográfico de Castilla La Mancha*. <http://www.uah.es/otrosweb/alecman/>.

GARCÍA MOUTON, P. & F. MORENO FERNÁNDEZ (1993) "L'ALECMAN parmi les atlas linguisties espagnoles", *Géolinguistique*, 5, 217-232.

GARCÍA MOUTON, P. (2006) "El desarrollo de la cartografía lingüística en la Península Ibérica a partir de la propuesta de Bernhard Schädel", in M. P. PEREA & G. COLÓN DOMÉNECH (eds.), *El Primer Congrés Internacional de la Llengua Catalana. Reflejos i projeccions*, Barcelona: PPU, 155-172.

GARCÍA MOUTON, P. (2010) "El procesamiento informático de los materiales del Atlas Lingüístico de la Península Ibérica de Tomás Navarro Tomás", in G. AURREKOEXEA & J. L. ORMAETXEA (eds.), *Tools for Linguistic Variation. Supplements of the Anuario de Filología Vasca "Julio de Urquijo", LIII*. Bilbao: Universidad del País Vasco, 167-174.

GILLIÉRON, J. & E. EDMONT (1902-1910) *Atlas linguistique de la France*, Paris: Honoré Champion.

GONZÁLEZ, M. (1999) "Metodología de los atlas lingüísticos", *Nazioarteko Dialektologia Biltzarra. Agiriak. IKER* 7, 151-177.

GONZÁLEZ SALGADO, J. A. (2000) *Cartografía lingüística de Extremadura. Origen y distribución del léxico extremeño*, Madrid: Universidad Complutense de Madrid, 4 vols.

GONZÁLEZ SALGADO, J. A. (2003) *Vocabulario tradicional de Extremadura. Léxico de la agricultura y la gandería*, Mérida: Editora Regional de Extremadura.

GONZÁLEZ SALGADO, J. A. (2005-2012) *Cartografía lingüística de Extremadura*, available: http://www.geolectos.com [Accessed 16 July 2012].

GRIERA, A. (1923-1964) *Atlas Lingüístic de Catalunya*, Barcelona: Abadia de Sant. Cugat del Vallès, 8 vols.

GUTIÉRREZ TUÑÓN, M. (2002) *Atlas Lingüístico de El Bierzo. Volumen I. Léxico (2)*, Ponferrada: Instituto de Estudios Bercianos.

HARRIS-NORTHALL, R. (1990) *Weakening processes in the history of Spanish consonants*, London and New York: Routledge.

HEAP, D. (2003) "Secuencias «invertidas» de clíticos: un cambio (¿?) en tiempo real", in J. J. de BUSTOS & J. L. GIRÓN ALCONCHEL (eds.), *Actas del VI Congreso Internacional de Historia de la Lengua Española (Madrid, 29 de septiembre-3 de octubre de 2003)*, Madrid: Arco/Libros, 785-798.

HEAP, D. (2008) "The Linguistic Atlas of the Iberian Peninsula (ALPI): A geolinguistic treasure 'lost' and found", *Toronto Working Papers in Linguistics* 27, 87-96.

HUALDE, I. (2005) *The Sounds of Spanish*, Cambridge: Cambridge University Press.

JULIÀ LUNA, C. (2007) *Léxico y variación: las denominaciones de las partes del ojo*, Bellaterra: Universidad Autonoma de Barcelona.

KEHRIN, R. (2012) "Linguistic Atlases: Empirical Evidence for Dialect Change in the History of Languages", in J. M. HERNÁNDEZ-CAMPOY & J. C. CONDE-SILVESTRE (eds.), *The Handbook of Historical Sociolinguistics*, Chichester-UK: John Wiley & Sons, 480-500.

MCDAVID, R. I. Jr. (1990): "Linguistic geography and language change", in Edgar C. PALOMÉ (ed.), *Research guide on Language Change*, Berlin-New York: Mouton de Gruyter, 161-174.

MORALA RODRÍGUEZ, J. R. (2002) "De la complejidad interna del castellano en Castilla (y León)", in C. Saralegui, M Casado (eds.), *Pulchre, bene, recte. Estudios en homenaje al Prof. Fernando González Ollé*, Pamplona: Eunsa, 955-969.

RFE (1915) "Alfabeto fonético", *Revista de Filología Española*, 2, 374-376.

SALVADOR, G. (1987) "La nasal velar en español", in G. SALVADOR, *Estudios dialectológicos*, Madrid: Paraninfo, 143-151.

SARAMAGO, J. (1994) "O Atlas Lingüístico-Etnográfico de Portugal e da Galiza", in P. GARCÍA MOUTON (ed.), *Geolingüística. Trabajos Europeos*, Madrid: CSIC, 225-232.

SARAMAGO, J. (2006) "O Atlas Lingüístico-Etnográfico de Portugal e da Galiza (ALEPG)", *Estudis Romanics*, XXVIII, 281-298.

SOUSA FERNÁNDEZ, X. (2009) "Xeolingüística e cambio lingüístico: gheada e seseo no ALPI e no ALGa", in M. ILIESCU, H. SILLER-RUNGGALDIER & P. DANLER (eds), *Actes du XXVe Congrès International de Linguistique et de Philologie Romanes. Innsbruck 2007* [3-8 September 2007, Innsbruck], Berlin: De Gruyter, 257-267.

SZMRECSANYI, B. (2012) "Methods and objectives in contemporary dialectology", in I. A. SERŽANT & Björn WIEMER (eds), *Современные методы в иалектологии. Ареал северных, северо-западных русских и белорусских говоров / Contemporary approaches*

*to dialectology: The area of North, Northwest Russian and Belarusian vernaculars*. <http://www.benszm.net/omnibuslit/Szmrecsanyi_Contemporary_Methods.pdf> Submited. [Accessed 12/07/2012]

TILLERY, J. & G. BAILEY (2003) "Approaches to real time in dialectology and sociolinguistics", *World English*, 22-4, 351-365.

TILLERY, J., T. WINKLE & G. BAILEY (2004) "Demographic change and American dialectology in the twenty-first century", *American Speech*, 79-3, 227-249.

TRUDGILL, P. (1974) "Linguistic Change and diffusion: Description and explanation in sociolinguistic dialect geography", *Language in Society*, 3, 215-246.

TRUDGILL, P. (1990): "Dialect geography", in E. C. PALOMÉ (ed.), *Research guide on Language Change*, Berlin-New York: Mouton de Gruyter, 257-271.

TRUDGILL, P. (2011) *Sociolinguistic typology. Social determinants of linguistic complexity*, New York: Oxford University Press.

VENY, J. & L. PONS GRIERA (2001-) *Atles Lingüístic del Domini Català*, Barcelona: Institut d'Estudis Catalans, 3 vols.

WAGENER, P. (2002) "German Dialects in Real-Time Change", *Journal of Germanic Linguistics*, 14.3, 271-285.

ZAMORA VICENTE, A. (1967) *Dialectología español*, Madrid: Editorial Gredos.

ZAMORA MUNNE, J. C. & J. GUITART (1988) *Dialectología hispanoamericana*. Salamanca: Ediciones Almar.