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BASQUE DIALECT CLASSIFICATIONS¹

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Abstract

This paper provides a historical overview of Basque dialect classifications. Although there have been different approaches to the classification of Basque dialects, there are five studies that have focused on the whole Basque territory. Bonaparte (1869) distinguished eight dialects, based on comparative linguistics. Caro Baroja (1945), on his ethnological classification, defended that the Basque dialect boundaries coincide with the areas that in Roman Age were occupied by different ethnic groups. Zuazo (1998), based on traditional dialectology, distinguished five dialects, four interdialect transition zones and three intradialect transition zones. Aurrekoetxea et al. (2017) distinguished eight dialects based on perceptual dialectology, but three dialects and seven subdialects based on quantitative dialectology (Aurrekoetxea et al. 2019).

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Name: Euskara [eus'kara]

Language code: ISO-639-1: eus, ISO-639-2: baq

CLASIFICACIONES DIALECTALS DEL BASC

Resum

Aquest article ofereix una visió històrica de les classificacions dels dialectes bascs. Tot i que hi ha hagut diferents enfocaments pel que fa a la seva classificació, hi ha cinc estudis que s'han pres en consideració tot el territori basc. Bonaparte (1869) va distingir vuit dialectes, basant-se en la lingüística comparada. Caro Baroja (1945), a partir d'una classificació etnològica, va defensar que els límits dialectals bascs coincideixen amb les zones que en l'època romana estaven ocupades per diferents ètnies. Zuazo (1998), basant-se en la dialectologia tradicional, va distingir cinc dialectes, quatre zones de transició interdialectal i tres zones de transició intradialectal. Aurrekoetxea et al. (2017) van distingir vuit dialectes, basant-se en la dialectologia perceptual, però tres dialectes i set subdialectes, si es basava en la dialectologia quantitativa (Aurrekoetxea et al. 2019).

Paraules clau: classificació dialectal, etnolingüística, dialectologia isoglòtica, dialectologia quantitativa, bac

EUSKALKIEN SAILKAPENA

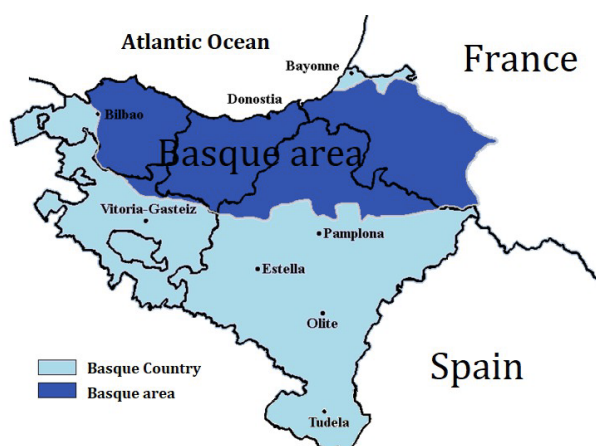
Laburpena

Euskalkien sailkapenen ikuspegi historikoa eskaintzen du artikulu honek. Bost ikerketa daude euskal lurralde osoa hartzen dutenak. Bonapartek (1869) isoglosetan oinarrituta, zortzi euskalki bereizten zituen. Caro Barojak (1945), bere sailkapen etnologikoan, aldeztu zuen euskalkien mugak bat datozela erromatar aroan euskal talde etnikoek okupatzen zituzten eremuekin. Zuazok (1998), isoglosetan oinarrituta, bost dialekto bereizi zituen. Aurrekoetxea et al. (2017) pertzepziozko dialektologiaren teknikak erabiliz zortzi dialektiko bereizten dituzte, eta dialektologia kuantitatiboan oinarrituz, dialektometria teknika erabiliz hiru dialekto (Aurrekoetxea et al.). 2019).

Hitz gakoak: Euskalkien sailkapena, sailkapen etnolingüistikoa, dialektologia isoglotikoa, dialektologia kuantitatiboa, euskara

1. Introduction

Euskara (lit. Basque language)² is the language spoken in Euskal Herria (The Basque Country),³ a region of about 20,742km² that straddles the North-west of Spain and the South-west of France (see Map 1):



Map 1. The Basque Country and the actual territory of the Basque language (Cenoz & Perales 2001: 91)

Linguistically, Basque is a language isolate, since it does not have any relation to any other known living language. Its origin is unknown; attempts to genetically relate it with other languages all failed. The most accepted current theory is that early forms of Basque developed before the arrival of Indo-European languages in the area, including the Romance languages that geographically surround the Basque-speaking region. There is no doubt that Basque has been in contact with other languages spoken in the area for a long time and, nowadays, a large part of its vocabulary is borrowed from Romance languages.

² In Spanish the most common name given to the language is *vasco* or *lengua vasca*, which is inherited from the Latin ethnonym *Vascones*, which in turn goes back to the Greek term *ουασκωνους* (*ouaskōnous*), an ethnonym used by Strabo in his *Geographica* (23 CE, Book III). It is also called, in Spanish, *Vascuence*, derived from Latin *vasconīce*, but it has acquired negative connotations.

³ *Euskal Herria* or The Basque Country is a term used to refer to the seven historical provinces: four provinces are part of Spain (Bizkaia / Biscay, Gipuzkoa / Guipuzcoa, Araba / Alava and Nafarroa / Navarre) and three are part of France (Lapurdi / Labourd, Baxenabarre / Lower Navarre and Zuberoa / Soule).

Regarding to geographical boundaries, the region where Basque is spoken has become smaller: in the beginning of the Common Era, it stretched to the river Garonne in the north (France) and at least to the Val d' Aran in the east (Catalonia), including areas on both sides of the Pyrenees; the historical southern and western boundaries are not clear at all. By the 16th century the Basque-speaking area was reduced to the present-day seven provinces of the Basque Country, excluding the southern part of Nafarroa (Navarre), the southwestern part of Araba (Alava) and the western part of Bizkaia (Biscay).

On the other hand, it has to be pointed out that Basque was banned from the Spanish Civil War (1936-1939) until the death of the dictator Francisco Franco in 1975. The repression was not only political, but also linguistic and cultural. Overall, from the 1960s onwards, the trend reversed and education and publishing in Basque began to flourish (Clark 1979: 149). As a part of this process, Euskaltzaindia (The Royal Academy of the Basque Language) developed a standardised form of the Basque language, called Euskara Batua, in the late 1960s. With the advent of democracy, in 1979 the Basque language became official in the Basque Autonomous Community, which paved the way for the 1982 "Law for the Standardization of the Use of Basque" and for the 1983 "Basque Government bilingualism decree" (Eusko Jaurlaritza [*Basque Government*] 1986: 97-101).

To understand the official position of Basque, it is important to understand the administrative organization of the Basque Country and Basque language area. It is divided into three administrative institutions, each with its own laws. The Peninsular or Spanish side is divided into two autonomous communities, with their own administrations, called Euskal Autonomia Erkidegoa or *The Basque Autonomous Community* (formed by the provinces Bizkaia, Gipuzkoa and Araba) and the Nafarroako Foru Erkidegoa or *Autonomous Community of Navarre* (formed by the province Nafarroa). The Continental or French side is called Euskal Hirigune Elkargoa or *Community of the Basque Country*, formed by the provinces Lapurdi (*Labourd*),

Nafarroa Beherea (*Lower Navarre*) and Zuberoa (*Soule*) that, at the same time, is part of the *Département des Pyrénées Atlantiques*. Basque is co-official together with Spanish in all the territory of Euskal Autonomia Erkidegoa. However, Nafarroako Foru Erkidegoa is divided into three areas: 1) a Basque area, where Basque is co-official together with Spanish; 2) a mixed area, where the use of Basque is restricted; 3) a non-Basque area, where the use of Basque is very restricted and not official. Finally, in the Euskal Hirigune Elkargoa the only official language is French.

Nowadays, the Basque Country has a population of around three million according to the survey carried out in 2016 by Eustat:⁴

60.7% of the population of the Basque Country aged 2 years and over, 1,287,839 people, had some knowledge of Basque in 2016, according to Eustat data. According to level of knowledge, 895,942 were Basque speakers, that is, people who understand and speak Basque well, and 391,897 were Quasi-Basque speakers, with an average or good level of understanding but with difficulty speaking.

Nowadays all Basque speakers are bilingual, in combination with Spanish or French (depending on the country), but not all inhabitants of the Basque language area speak Basque. In fact, there are three educational systems: 1) Spanish-medium education with Basque as subject (A model); 2) half-and-half option with both Spanish and Basque as subject and medium (model B); and 3) Basque-medium education with Spanish as subject (D model) (Gardner & Zalbide 2005: 58). Of course, all students also learn a foreign language as a subject.

⁴ Basque Statistics Institute (2016), https://en.eustat.eus/elem/ele0014600/not0014683_i.pdf. Although we do not fully agree with the “Quasi-Basque” term, we wanted to maintain the literal quote. From a sociolinguistic point of view, it could be better to say that these are people who have some knowledge of Basque but do not have the full competence.

2. Classifications

Regarding the Basque dialect classification, five classifications have been made throughout history: 1) Louis-Lucien Bonaparte's classification (1869), 2) Julio Caro Baroja's classification (1945), 3) Koldo Zuazo's classification (1998), 4) Aurrekoetxea, Arandia, Camino and Etchevest's classification (2017); and 5) Aurrekoetxea, Gaminde, Ormaetxea and Videgain's classification (2019). In these classifications four theoretical frameworks have been used: ethnology (Caro Baroja 1945), isoglottic dialectology (Bonaparte and Zuazo), perceptual dialectology (Aurrekoetxea et al. 2017) and dialectometry (Aurrekoetxea et al. 2019).

2.1 *Louis-Lucien Bonaparte (1869)*

Even though writers like Oihenart (17th century) and Larramendi (18th century) are important precursors, Louis-Lucien Bonaparte (1813-1891) carried out the first exhaustive classification of the Basque dialects, subdialects and varieties in the 19th century (1869). He was a French aristocrat and self-trained linguist and a nephew of Napoleón Bonaparte. His classification has been the foundation of Basque dialectology.

2.1.1 Theoretical framework: Isoglottic dialectology

Bonaparte studied the geographical distribution of specific grammar characteristics to establish the boundaries between the Basque dialects, which he used later to create his dialect map. With the help of collaborators from different locations in the Basque Country, he collected three kinds of materials: 1) data collected on field trips by Bonaparte himself (six trips from 1856 to 1869), 2) field work by a network of collaborators, and 3) translations of biblical texts by the network of collaborators.

Bonaparte was dedicated to the comparative study of European languages, and one of the first philologists who studied living languages in this framework. However, he did not explicitly specify the features for classifying dialects and drawing maps, but some of the linguistic features are mentioned in other publications and in the letters to his collaborators. Experts of his work do not agree on the exact features, but most believe there were about 80 (see Table 1 for a selection).

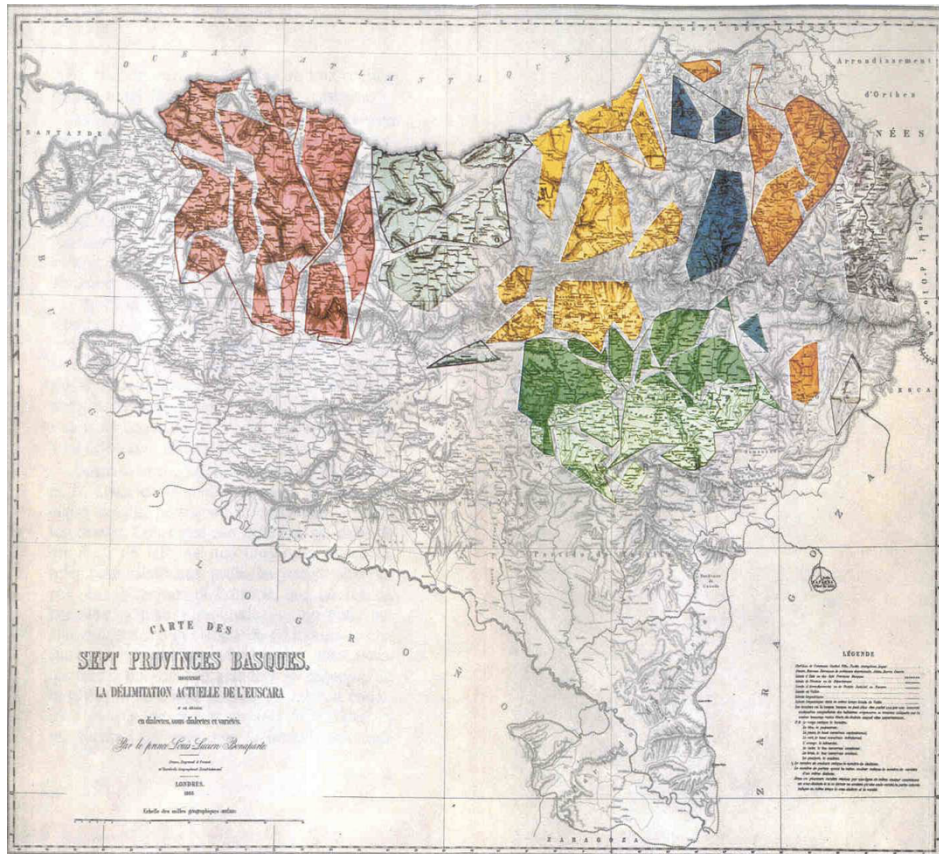
Phonology	The use of the <i>ü</i> [y] vowel (close front rounded vowel); The existence of nasal vowels; The presence of aspiration ([h], [p ^h , t ^h , k ^h]). The different pronunciations of word-initial *j: <i>yan / xan / jan</i> 'to eat'.
Noun morphology	The form of the ergative plural suffix <i>-ak/ -ek</i> : <i>gizonak jan dute/ gizonek jan dute</i> 'the men have eaten it'. The form of the suffix for the comitative case <i>-gaz/ -kin/ -ki</i> : <i>jaunagaz/ jaunarekin/ jaunareki</i> 'with Lord'.
Verb morphology	The vowel in the stem of the present tense of the auxiliary <i>izan</i> 'to be': <i>naiz / naz / niz</i> 'I am' and <i>gara / gera / gira</i> 'we are'. The vowel in the stem of the present tense of the auxiliary <i>edun</i> 'to have': <i>dut / det / dot</i> 'I have'. The use of a contrast between the uninflected forms <i>ukhan</i> 'to have' and <i>izan</i> 'to be' (vs. only <i>izan</i> 'to be' or 'to have').
Syntax	The causative prefix <i>bait-</i> (<i>zeren ona baita</i> 'because it is good'). The use of the interrogative suffix <i>-a</i> : <i>egin dia?</i> vs. <i>egin al du?</i> / <i>egin du</i> 'did s/he do it?'.
Lexicon	<i>domeka / igande</i> 'Sunday'. <i>bekoki / kopeta / belhar / boronde</i> 'forehead'. The distribution of variants of the same lexeme, especially the pair <i>aurpegi / bisaia</i> 'face'.

Table 1. Some features used by Bonaparte for the classification of the Basque Dialects

2.1.2 Classification of dialects and subdialects

Bonaparte made four classifications of the Basque dialects (Yrizar 1981: 97-125): the first classification was made between 1861 and 1863, the second in 1864 and 1865, the third between 1866 and 1868 and the fourth in 1869. As far as dialects are

concerned, in the first and second classifications he proposed six dialects, in the third five and in the fourth he distinguished eight dialects, 25 subdialects and 50 varieties (see Map 2):



Map 2. Basque dialect map (Bonaparte, 1869)
<https://www.ekigunea.eus/dbh/es/edukia/eso2/gizarte/giz-2-2/U/44/bonaparteren-euskalkien-mapa>

These are the dialects and subdialects that Bonaparte proposed in his classification (Table 2), from west to east (from left to right on Map 2).

Dialect	Colours	Subdialects	Varieties
Biscayan	red	Western Eastern Guipuzcoan	7 1 2
Guipuzcoan	light blue	Northern Southern Navarrese	3 1 2
Northern Upper Navarrese	yellow	Ulzama Baztan Bortziriak Arakil Araitz Guipuzcoan	1 1 1 1 1 1
Southern Upper Navarrese	green	Eastern Izarbeibar Western	5 1 3
Labourdian	yellow	Pure Mixed	3 1
Western Lower Navarrese	dark blue	Baigorri Labourdian Aezkoa Salazar	1 2 1 1
Eastern Lower Navarrese	orange	Garazi-Amikuze Adour	4 2
Souletin	brown	Pure Roncalese	1 3

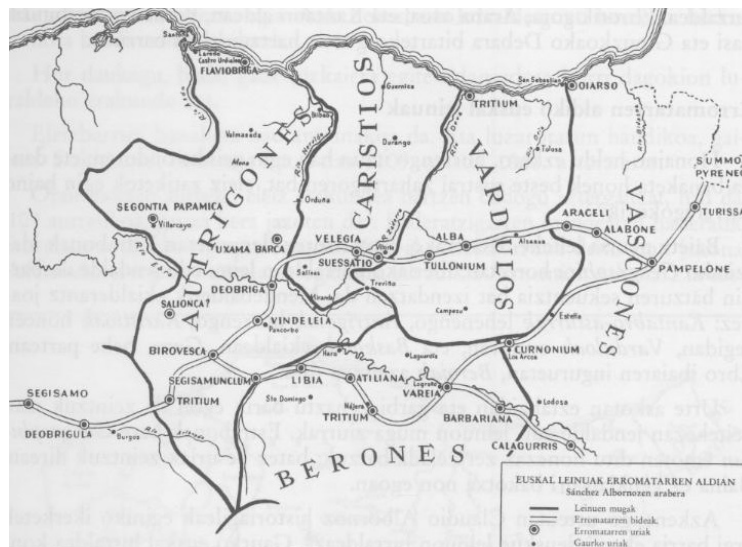
Table 2. Dialects and subdialects by Bonaparte

2.2 Julio Caro Baroja (1945)

Although in the 17th century Arnaut Oihenart mentioned that the division of Basque dialects matched with the ancient tribe partitions (Oihenart 1656 [1992]) and Arturo Campión followed his idea (1884), it was Julio Caro Baroja (1914-1995) who first developed this hypothesis.

2.2.1 Theoretical framework: Ethnological classification

Caro Baroja (1914-1995), renowned anthropologist, collected the ideas of classic authors about the tribe boundaries and historical territorial boundaries of Basque. Caro Baroja (1945: 34) concluded that the Basque dialects boundaries coincide with the areas that in Roman Age were occupied by Vasconian, Vardulian, Caristian, Autrigonian and Beronian (See Map 3).



Map 3. Tribe boundaries (Mañaricua 1964) <http://euskerarenjatorria.eus/?p=40110>

2.2.2 Classification of dialects and subdialects

According to this hypothesis, the territory occupied by the Caristian corresponds to the Biscayan dialect of Bonaparte (see Figure 3); the territory occupied by the Vardulian corresponds to the Guipuzcoan dialect; and the territory of Vasconian corresponds to the Northern and Southern Upper Navarrese dialect. According to this, neither the Autrigonian nor the Beronian would be Basque-speaking tribes. Only at the southern border the Vardulian and the Guipuzcoan dialect do not match (Caro Baroja 1958 [1973]). In the north-eastern dialects the denominations match with historical

territories. This hypothesis was followed by among others Mañaricua (1964), Barandiaran (1976) and J. Allières (1981).

However, some historians, such as Etxegarai (1895: 97-98) pointed out that there is a relationship between the partition of dioceses and the distribution of dialects: the territory of the Biscayan dialect corresponds to the territory of the Calatayud diocese, the territory of Guipuzcoan dialect to the Pamplona diocese, and the territory of the northern part of Guipuzcoa and the northern part of Navarre to the Bayonne diocese. Other authors, like Mujika (1914: 192-193) adhered to this point of view.

In addition, Koldo Mitxelena (1981) argued that the Basque dialects could not be as ancient as the tribes, since nowadays the differences between the dialects are small and, moreover, historical evidence showed that Basque dialects have separated over time; the older the testimonies, the smaller the dialect differences. Since Mitxelena's work in 1981, it has been widely accepted that Basque dialects began to emerge in the Middle Ages and started to diverge (see also Lakarra 1986, 1996). Koldo Zuazo (2010), following the work of Mitxelena, showed that the separation of Basque dialects is not ancient and, therefore, that the origins of today's Basque dialects are medieval. He gave three reasons: 1) the internal unity of Basque, 2) common innovations in all dialects, 3) the similarities within the Central dialect.

2.3 Zuazo (1998)

At the end of the 20th century Koldo Zuazo (1956-), a Basque dialectologist and sociolinguist, revisited Bonaparte's classification and delimited the actual dialect areas (Zuazo 1998). There are historical reasons for the lack of dialectological studies: on the one hand, Franco's dictatorship prohibited speaking Basque; and on the other hand, the lack of a Basque University made it almost impossible to study Basque linguistics.

2.3.1 Theoretical framework: Isoglottic Dialectology

Zuazo's classification was substantiated in comparative grammar from a diachronic point of view, as it was based on innovations, rejecting the archaisms (thus, for example, the nasal vowels of Souletin or Roncalese, and plosive voiceless after *n*, / (*igante* 'Sunday', *sügaitz*). Among the innovations he selected characteristics with a wide geographical spread, that were productive (showing high frequency and regularity) and that were used in contemporary Basque. Nevertheless, he did not specify which classification technique he used, nor how the boundaries were delimited. Zuazo adhered to traditional dialectology in the selection of features to demarcate dialect areas. He clearly specified, explained and motivated the selected features. He selected a total of 108 phonological, morphological and syntactic features (see Table 3 for examples).

Grammar field	Features
Phonology	<p>'-a + a > -a' rule: <i>alaba + a</i> > <i>alabea</i> 'the daughter'.</p> <p>'i __ + V /> / i j V /' rule: <i>mendi + a</i> > <i>mendija/ mendixa</i> 'the mountain'.</p> <p>'u __ + V /> /u b V/' rule: <i>buru + a</i> > <i>buruba</i> 'the head'.</p> <p>The neutralization of sibilants from 4 (<i>s</i>, <i>z</i>, <i>ts</i>, <i>tz</i>) to 2 (<i>s</i>, <i>tz</i>): <i>hasi</i> 'to start' / <i>hazi</i> 'to grow' > <i>asi</i> ('to start' / 'to grow'), <i>atzo</i> 'yesterday' / <i>atso</i> 'elder' > <i>atzo</i> ('yesterday, 'elder').</p> <p>'u > i' rule: <i>buru + a</i> > <i>buria</i> 'the head'.</p>
Morphology	<p>The form of the verbal noun <i>-tzen / -ten</i>: <i>betetzen/ beteten</i> 'to be filling'.</p> <p>The *-i- auxiliary verbal root on verbs with three arguments (<i>diot</i>).</p> <p>The use of <i>-ki</i> morpheme in verbs: <i>ibilki, jakinki</i>.</p> <p>The use of <i>ala</i> and <i>edo</i> in disjunctive sentences vs. only <i>edo</i>.</p> <p>The use of <i>-gaz</i> vs. <i>-kin</i> in sociative case.</p> <p>The optional use of demonstratives before a noun.</p> <p>The form of the participle <i>-a(d)u</i> vs. <i>-atu</i> in borrowed Spanish <i>-ado</i> verbs.</p> <p>The form of the participle <i>-i(d)u</i> vs. <i>-itu</i> in borrowed Spanish <i>-ido</i> verbs.</p>
Syntax	<p>The <i>-(r)ikan</i> morpheme, instead of <i>(r)ik</i> (<i>izanikan</i>).</p> <p>The <i>-(e)na</i> vs. <i>-(ela)</i> morpheme in complement sentences.</p> <p>The use of <i>-t(z)earren</i> morpheme in final sentences.</p>

Table 3. Some of the features used by Zuazo for the classification of Basque Dialects

2.3.2 Classification of dialects and subdialects

Zuazo revised the classification by Bonaparte: among other modifications, he changed the name of Biscayan to Western and of Guipuzcoan to Central, he grouped the Labourdian and Low Navarrese dialects in the Navarrese-Labourdian dialect and he recognized several transition zones for local varieties that cannot be placed in a specific group, since they share features with more than one major dialect (see Map 4):



Map 4. Zuazo's adapted dialect map (2019)

Zuazo made eleven groups, in which some of the features are common. Within the eleven groups, he distinguished five dialects: Western, Central, Navarrese, Navarrese-Labourdian and Souletin:⁵

- Western: spoken in Bizkaia, the North-Eastern part of Araba and most of Western part (Deba Valley) of Gipuzkoa. It has two subdialects: Western and Eastern.

- Central: spoken in most Gipuzkoa and in western part of Nafarroa. It has three subdialects: Western, Central and Eastern.

⁵ The other groups are: characteristics that are known throughout the Basque territory, characteristics that are known in the Western and Central areas, features of the Peninsular Basque, etc.

- Navarrese: spoken in most Nafarroa. It has four subdialects: North-Western, South-Western, Central and Eastern subdialects.

- Navarrese-Labourdian: spoken in Lapurdi (*Labourd*), Low Navarre and in North-Western part of Zuberoa (*Soule*). It has two subdialects: Western and Eastern.

- Souletin: spoken in most of Zuberoa and in Eskiula (Béarn). It does not have subdialects.

Zuazo distinguished two types of transition zones: interdialectal and intradialectal transition zones. There are four interdialectal zones: (a) between Western and Central dialects, (b) between Central and Navarrese, (c) between Navarrese and Navarrese-Labourdian, and (d) between Navarrese-Labourdian and Souletin. He also points out three intradialectal transitions: (i) the transition zone of Busturialdea and Legutio, between the Western and Eastern subdialect of Western dialect; (ii) a narrow area between the Western and Eastern subdialects of the Central dialect; and (iii) an area that separates the Western and Eastern subdialects of the Navarrese-Labourdian dialect. This classification has been refined subsequently (Zuazo 2003, 2008, 2013 and 2019).

2.4 *Aurrekoetxea et al. (2017)*

After Zuazo's classification, there have been many attempts to depict the dialect boundaries from other perspectives. With a team of assistants, Aurrekoetxea, Arandia, Calvet & Camino (2015) and Aurrekoetxea, Arandia, Camino & Etchevest (2017) conducted perceptual studies.

2.4.1 Theoretical framework: Perceptual Dialectology

Aurrekoetxea et al. (2015, 2017) used the *Little Arrow Method* (Weijnen 1946, 1999) for their research. These were the first studies in Basque dialectology using

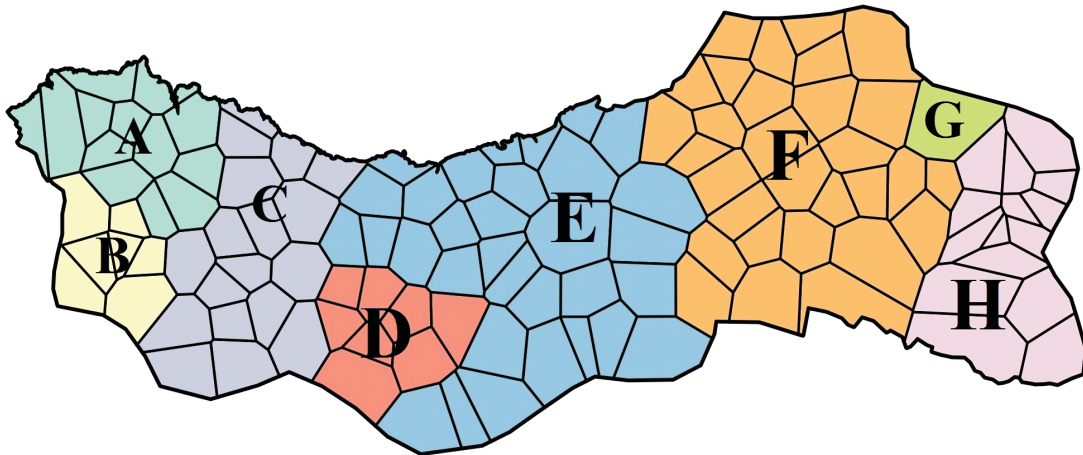
Preston's Perceptual Dialectology framework (1989, 1999), resulting in a representation of the subjective partition of the varieties made by the speakers of that language area.

The data for the first contribution was gathered by an open-answer questionnaire made to speaker-informants from 20 to 40 years old in 153 locations. The questions were: a) which locations in your neighbourhood do you consider speaking the same variety as yours? b) which locations in the neighbourhood do you consider to speak a variety different from yours? and c) could you give some examples of the different speaking? Their classification is based on responses to the first question.

The second contribution deepened the application of the method in two aspects: a) conducting surveys in more locations and collecting more information in previously surveyed locations; b) investigating the perception of speakers of different generations and training in some locations; and c) a more detailed analysis of the results.

2.4.2 Classification of dialects and subdialects

Based on the perceptions and linguistic ideologies of non-linguist speakers, they drew three maps: 1) a map of arrows, result of mapping the answers of the speakers; 2) a map of dialect borders, which results from the mapping of isoglosses by areas not crossed by arrows –these two maps were handmade– and 3) a map of areas, based on the first maps and built by *Diatech* tool, in which the main dialect areas were distinguished according to the speaker's view (see Map 5).



Proiektua: 0-D-2. Diatex <http://eudia.ehu.es/diatex>

Map 5. Subjective Basque dialects map (Aurrekoetxea et al. 2017: 60)

The subjective map of the Basque dialects divided the Basque geography into eight dialect areas. Speaker's perceptions of linguistic variation differed from insights by dialectologists and the resulting perceptual map was different from the traditional existing maps. Although it matched in number with Bonaparte's dialects, its geographical distribution was different. In comparison with the map by Zuazo, there is also a mismatch in the number of dialects and the geographical distribution of some of the areas. Nevertheless, perceptual maps and traditional maps agree on the special position of the Souletin dialect (*H* in Map 5).

2.5 Aurrekoetxea et al. (2019)

The publication of *Euskararen Herri Hizkeren Atlas-a-EHHA* (Linguistic Atlas of the Basque language) (Euskaltzaindia 2010-2020) and the creation of large databases made it possible to use quantitative geolinguistic analysis techniques for the classification of the Basque dialects.

2.5.1 Theoretical framework: Quantitative Dialectology

The use of quantitative methods to analyse geolinguistic variation has a large tradition in Basque dialectology. The first dialectometric application was the classification of Navarrese dialects by Aurrekoetxea (1992). Afterwards, there have been more dialectometric studies focussing on different Basque regions, but Aurrekoetxea, Gaminde, Ormaetxea & Videgain (2019) is the only one that considered the whole Basque language area.

Aurrekoetxea *et al.* (2019) aimed to provide a new classification of the Basque dialects, based on large databases and with the help of statistical techniques. A hierarchical cluster analysis was carried out independently for each of the following categories: phonology, noun morphology, verb morphology, syntax and lexicon. As a result, they achieved five different classifications, one for each type of variables. Subsequently, they merged the databases into one and made a new classification with all; that final overall is the one that we present here (see Map 6). The quantitative analysis was carried out using the *Diatech* tool.

The classification of dialects was based on 648 linguistic features: 113 phonological features, 156 noun morphology items, 136 verb morphology items, 61 syntactic features and 183 lexical items. The choice of linguistic characteristics was carried out with the idea that all grammatical categories would be covered. The features for morphology, phonology, and syntax were taken from EHHA, but features with gaps in more than 10 localities were set aside. The lexical items were taken from the first two volumes of EHHA. Therefore, it was a corpus-based investigation with a much broader and diverse set than in traditional dialectology, as it takes all the possible features that match with previously established criteria.

2.5.2 Classification of dialects and subdialects

The analyses focused on characterizing distinct types of boundaries and on quantifying the differences between dialect areas in such a way that the boundaries between dialects are more robust than the borders between the subdialects. Although at a theoretical level the minimum differentiation with respect to the contiguous area that an area must have is not settled in order to be considered a dialect, in this work they use 44.4% of the linguistic differentiation according to the data and the linguistic distance generated. For subdialects, the minimum accepted level in this work is 25%.

Following that methodology, it was concluded that Basque has three dialects and seven subdialects (Aurrekoetxea et al. 2019) (see Map 6):



Map 6. Dialect map based on Quantitative Dialectology (Aurrekoetxea et al. 2019)

1. Western dialect. It has two subdialects: Western and Eastern.
2. Central dialect. It has two subdialects: Central and Navarrese.
3. Eastern dialect. It has three subdialects: Western, Central and Eastern.

This research did not consider varieties lower than subdialects but will be considered in future works by the authors.

3. Discussion

Most of the Basque dialectological works are late, compared to European dialectology. This is due, among other factors, to the suppression of Basque during Franco’s dictatorship and the fact that Basque was and is a minority language. With the restoration of democracy and the freedom to speak and investigate Basque, together with the officialization of the language and the creation of the Basque university, dialectological and linguistic research have grown considerably.

Various theoretical frameworks have been used in dialect classifications carried out in Basque: ethnological, traditional dialectology, perceptual dialectology, and quantitative dialectology. Placing each classification in the history of Basque dialectology can throw light on understanding it better (see Table 4):

Year	Ethnological classification	Isoglottic dialectology	Perceptual dialectology	Dialectometry
1850-1899		Bonaparte (1869)		
1900-1949	Caro Baroja (1945)			
1950-1999		Zuazo (1998)		
2000>			Aurrekoetxea et al. (2017)	Aurrekoetxea et al. (2019)

Table 4. Analysis of different theoretical frameworks in Basque dialectology

The ethnological classification has been mentioned countless times, but the arguments were not always elaborated in detail. The corresponding map was built in the second half of the 20th century, although the first references date from the end of the 17th century. It is not a classical dialect classification, but an explanation of the historical background of each dialect area. Neither can a specific researcher be given a paternity letter, since it was developed little by little, in which each researcher added plausible arguments for the current territorial occupation of the dialects.

In Basque dialectology, the traditional dialectology framework has been the most prolific so far, both in the classification of dialects and in case studies. Regarding the classification of dialects, three classifications have been carried out in this theoretical framework: the first was done by Bonaparte. In fact, the classification work took a long time and a lot of effort, as can be seen in his 4 different classifications and his letters with the collaborators. Bonaparte's classification was the basis for various modifications, with Azkue (1905) being the most important one, reducing the number of dialects from eight to seven.

Zuazo dismissed the classification of Bonaparte and, consequently, Azkue's one, arguing that both the characteristics chosen, and their use are criticisable. This researcher considers the innovations on dialects, rejecting archaisms but, on the other hand, among the innovations he rejected some characteristics that did not have large space and that they were productive and alive in today's Basque. Zuazo, in his later elaborations, proposed a series of transition zones, both interdialectal and intradialectal, reaching an unprecedented level of detail in his classification. It was exclusively based on grammatical features of the dialects, not on their lexical characteristics.

The contribution of Basque dialectology to perceptual dialectology is small and late in time. Considering that the first maps of this nature were published in the 1940's (Weijnen 1946) the first Basque perceptual map was published 70 years later. This

theoretical framework has not been fully exploited and should be explored in the future.

Studies on quantitative dialectology or dialectometry are more deeply rooted in Basque dialectology. The activity of the EUDIA research group (University of the Basque Country-UPV/EHU) has been essential for the dissemination of this framework in Basque dialectology. The quantitative treatment of multiple responses led to the creation of the *Diatech* tool (eudia.ehu.eus/diatech) for the quantitative analysis of dialect data. The new classification of dialects had been an urgent need, due to the variety of different points of view (and maps) that traditional dialectology methods had produced. This new classification, using hierarchical methods, reduced the number of dialects to three.

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