



HAL
open science

On the loss of Ergative Displacement in Basque and the role of analogy in the development of morphological paradigms

José Ignacio J. I. Hualde

► **To cite this version:**

José Ignacio J. I. Hualde. On the loss of Ergative Displacement in Basque and the role of analogy in the development of morphological paradigms. 1, Lincom Europa, pp.219-230, 2002. artxibo-00084922

HAL Id: artxibo-00084922

<https://artxiker.ccsd.cnrs.fr/artxibo-00084922v1>

Submitted on 11 Jul 2006

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

On the loss of Ergative Displacement in Basque and the role of analogy in the development of morphological paradigms

José Ignacio Hualde, Univ. of Illinois at Urbana-Champaign

[In Fabrice Cavoto, ed., *The Linguist's Linguist: A Collection of Papers in Honour of Alexis Manaster Ramer*, vol 1. 219-230. Munich: Lincom Europa]

Abstract*

Finite verbs in Basque agree with subject, direct object and indirect object. Argument agreement is complicated by a phenomenon known as Ergative Displacement (= ED). Ergative subjects are encoded by suffixes or prefixes depending on the tense. The ED phenomenon has been lost in Bermeo, where past forms are now formed by adding *-(e)n* to the corresponding present forms without altering the order of the agreement affixes. Both dialectological and diachronic evidence show that the situation found nowadays in Bermeo is the final result of a process whereby etymological forms are replaced one by one, starting from the least commonly used forms. This has produced morphological systems which are more difficult to describe than the original one because it is not possible to give a single rule to define the position of agreement affixes in a given paradigm. The loss of ED in Bermeo cannot be interpreted as a change in the rules of word formation. The evidence leads us to the position that speakers employ analogies to derive less common from most common forms but without complete morphological analysis and without regard to the cohesiveness of the whole system.

1. Introduction

In Basque there is verb agreement with subject, direct object and indirect object. In the following examples subject agreement affixes are in bold and other agreement affixes are underlined:

- | | | |
|-----|-------------------------|---|
| (1) | dakart | 'I am bringing it' |
| | darkar zu | ' you are bringing it' |
| | <u>n</u> akar zu | ' you are bringing <u>me</u> ' |
| | dakark <u>iz</u> ut | 'I am bringing it to <u>you</u> ' |
| | dakarkid <u>az</u> u | ' you are bringing it to <u>me</u> ' |

On the other hand, only a handful of verbs are conjugated synthetically in present-day Basque. With most verbs (and, in some tenses, for all verbs) an auxiliary carries agreement (as well as tense and mood) information and the main verb appears in a participial form (perfective, imperfective, prospective or bare root):

- | | | |
|-----|-------------|--------------------|
| (2) | ikusi dut | 'I have seen it' |
| | ikusten dut | 'I see it' |
| | ikusiko dut | 'I will see it' |
| | ikusi duzu | 'you have seen it' |
| | ikusi nauzu | 'you have seen me' |

* For comments I am grateful to Joan Bybee and Jon Ortiz de Urbina. A version of this paper was presented at the January 2000 Annual Meeting of the Linguistic Society of America.

eman didazu ‘you have given it to me’
 eman dizut ‘I have given it to you’

The different conjugated verbal forms are often described as being produced from the combination of morphemes permitted by certain schemas. For instance the ‘schema’ for trivalent or ditransitive auxiliary forms in the present indicative for a third person singular direct object (in trivalent forms the direct object is necessarily a third person) would be the following:

(3) Morphological schema of the present indicative ditransitive (trivalent) auxiliary

	D.O.	Root	I.O.	Subject
1sg.			t/da-	-t
2sg. fam. masc.			-k(a)	-k
2sg. fam. fem.			-n(a)	-n
3sg.	d-	-i-	-o	—
1pl.			-gu	-gu
2sg.			-zu	-zu
2pl.			-zue	-zue
3pl.			-e	-te

This schema produces the existing present tense trivalent forms in standard Basque; e.g.:

(4) Examples of trivalent forms

d-i-gu-zu ‘you V it to us’ (e.g.: *eman diguzu* ‘you have given it to us’),
 d-i-zu-gu ‘we V it to you’ (e.g.: *eman dizugu* ‘we have given it to you’)

Other schemas produce bivalent transitive forms and intransitive monovalent and bivalent (absolutive-dative) forms.

A complication in the Basque verbal morphological system is caused by a phenomenon known as “Ergative Displacement” (see Laka 1993, Ortiz de Urbina 1989, Gómez & Sainz 1995). Whereas, in the present tense, ergative subjects are encoded by the suffixes listed above, in the past and some other tenses the ergative subject is marked by a prefix when the subject is a first or second person and the direct object is a third person (subject agreement affixes are in bold in the examples). Compare the following present and past transitive auxiliary forms for the same combinations of arguments:

(5) Ergative Displacement

PRESENT AUX		PAST AUX	
ikusi dut	‘I have seen it’	ikusi nuen	‘I saw it’
eman dizut	‘I have given it to you’	eman nizun	‘I gave it to you’
eman didazu	‘you have given it to me’	eman zenidan	‘you gave it to me’

The schema for trivalent auxiliary forms in the past indicative corresponding to the present forms above is the following. Notice that the subject is indicated by a prefix (except that there is a pluralizer suffix *-te-* when the subject is a third person plural):

(6) Morphological schema of the past indicative ditransitive auxiliary

	Subject	Root	I.O.	Subject	past
1sg.	n-		-da-		-n
2sg.fam.masc. h-			-a-		-n
2sg.fam.fem.	h-		-na-		-n
3sg.	z-	-i-	-o-		-n
1pl.	gen-		-gu-		-n
2sg.	zen-		-zu-		-n
2pl.	zen-		-zue-		-n
3pl.	z-		-e-	-te-	-n

The subject agreement prefixes used in the past tense of transitive verbs are the same ones that encode the absolutive subject of intransitive verbs in all paradigms (subject pronouns are also given for comparison):

(7)	PRONOUNS	intr. aux				
		present		past		
ni	'I'	naiz	'I am'	nintzen		'I was'
hi	'thou'	haiz	'thou art'	hintzen		'thou wast'
—		da	's/he is'	zen		'he was'
gu	'we'	gara	'we are'	ginen		'we were'
zu	'you'	zara	'you are'	zinen		'you were'
zuek	'you-pl'	zarete	'you-pl are'	zineten		'you-pl were'
—		dira	'they are'	ziren		'they were']

Some examples of present/past pairs for the transitive auxiliary further illustrating the phenomenon of Ergative Displacement are the following. Examples are given both in Standard Basque and in Literary Bizkaian, a conservative western dialect (see Pujana 1970), since in the rest of this paper we will be concerned mostly with varieties of the Bizkaian (or Western) type. The phenomenon is exactly the same in both literary (= written) dialects:

(8) Ergative Displacement: examples of present/past pairs of transitive auxiliary

	Standard Bq	Literary Bizkaian
	PRES-PAST	PRES-PAST
'I V it'	dut — nuen	dot — neban
'I V it to him'	diot — nion	deutsat — neutsan
'you V it'	duzu — zenuen	dozu — zenduen
'you V it to me'	didazu — zenidan	deustazu — zeustan

Examples:

ikusi dut 'I have seen it' vs. ikusi **nuen** 'I saw it'
 emango diot 'I will give it to him' vs. emango **nion** 'I would give it to him'

Confronted with morphological facts of this degree of complexity (different orders of affixes in different tenses, a multitude of forms for each tense—intransitive monovalent, intransitive bivalent, transitive bivalent, transitive trivalent), a question that we may be curious about is the

speakers' mental representation of this knowledge. How is this knowledge stored in the speaker's mind? What generalizations do speakers make?

We may contemplate two extreme positions. One of them would be to postulate that speakers memorize forms one by one without extracting any generalizations. As a matter of fact, in the last few centuries both the number of forms that a verb may take and the number of verbs that can be conjugated have been considerably reduced. This can be seen as a failure on the part of speakers to memorize less frequent forms, perhaps because of ever increasing levels of bilingualism. This appears to be Azkue's view:

Hypothesis A.

“He de rendir tributo de admiración y respeto a aquellos antepasados nuestros en cuyo cerebro cupo toda esta copiosísima y magnífica conjugación” (Azkue 1923:805).

[“I must render homage of admiration and respect to those ancestors of ours whose brains could store all of this extremely rich and magnificent conjugation”]

The opposite view would be the one perhaps represented by Laka (1993, 1995) and other generative linguists, according to which the only thing speakers need to internalize is a small number of morphemes and a few schemas for stringing morphemes together:

Hypothesis B.

“building an auxiliary form in Euskara, with all of its agreement markers, is just a matter of putting a few pieces together.” (Laka 1995:1.2.1)

In the remainder of this paper we will examine some facts of historical change which seem to bear on this question. The view that will be defended is one in which verb forms are indeed learned as wholes, not as strings of morphemes, but where speakers may also make use of emergent generalizations and regularities to produce less common forms.

2. Loss of Ergative Displacement in Bermeo

In the Bizkaian variety of Bermeo, ED alternations have been leveled. In this dialect past forms are simply based on present forms with addition of a suffix *-(e)n*, and the ED alternations have been discarded:¹

(9) Bermeo: No Ergative Displacement

PRESENT		PAST	
dot	—	doten	‘I V it’
dotsat	—	dotsaten	‘I V to him/her’
(do)zu	—	(do)zun	‘you V it’
(do)stazu	—	(do)stazun	‘you V it to me’

On the face of it, these facts give evidence for a type of morphological change of a rather straightforward type: it would appear that one schema for the generation of past forms similar to

¹ Sources on Bermeo verbal morphology which I have consulted are Egaña (1984), Gaminde (1995) and Yrizar (1992). I am also very thankful to Maria Basterretxea, a young speaker of this variety. A note on orthography: In Basque orthography *s* and *z* represent two voiceless fricatives differing in point of articulation (apico-alveolar and lamino-alveolar, respectively). This place contrast has been lost in Bermeo and all other local dialects considered in this paper. Nevertheless, to facilitate comparison with the more conservative literary dialects, the orthographic distinction is preserved in this paper. This also affects the distinction between the corresponding affricates *ts* and *tz*, which in Bermeo and the other local dialects examined here have also merged.

(12) Bivalent transitive forms

	Lit. Bizkaian		Bermeo	
	PRESENT	PAST	PRESENT	PAST
'I V it'	dot	neban (G nuen) ²	dot	nauen ~ doten
'he V it'	dau	eban (G zuen)	dau	zauen
'we V it'	dogu	genduen	du	dun
'you V it'	dozu	zenduen	zu	zun
'you-pl V it'	dozue	zendueen	zuie	zuien
'they V it'	dabe	eben	dauie	zauien

(13) Bermeo: Monovalent intransitive / copula forms

	PRESENT		PAST	
nai	'I am'		nitzen ~ naitzen ~ naien	'I was'
da	's/he is'		zan	's/he was'
gara ~ gariez	'we are'		giñen ~ garizen	'we were'
zara	'you are'		ziñen ~ zaran	'you were'
zarie	'you-pl are'		ziñien ~ zarien	'you-pl were'
di(r)e(z)	'they are'		zi(r)en	'they were'

As can be observed, the Bermeo dialect has innovated an entire past paradigm based on the present paradigm with the addition of *-(e)n*. Notice again the persistence of the etymological form with ED in (12) only for a first person singular subject. In the basic bivalent transitive paradigm, only the form *nauen* stands out as asystematic in the restructured verbal system of Bermeo, since it differs radically from the corresponding present form *dot*. Very likely the close formal resemblance between *nauen* and *zauen* has contributed to the survival of the etymological form *nauen* in coexistence with the synonymous innovative form *doten*.

In the forms for a third person (singular or plural) subject, there is another difference between present and past: whereas the present forms have a *d-* prefix, in the past there is a *z-* /*s-*/. This is a subregularity that also applies in intransitive forms:

(14) Subject 3rd person

	PRESENT		PAST
	d-	—>	z- /s/
	da 's/he is'	—>	zan 's/he was'
	dire(z) 'they are'	—>	ziren 'they were'
	dau 's/he Vs it'	—>	zauen 's/he Ved it'
	dauien 'they V it'	—>	zauien 'they Ved it'

To sum up so far, in Bermeo Basque a new general rule for forming past-tense conjugated forms has been adopted, making past forms only minimally different from corresponding present-tense forms.³ Most etymological past-tense forms have been lost and even the few remaining ones

² Gipuzkoan forms (marked with G) are given for comparison when these more closely resemble the Bermeo forms than the corresponding Literary Bizkaian variants.

³ Except for imperative forms, all other moods (conditional, potential, subjunctive) have been replaced by periphrastic constructions involving the present or the past indicative.

are now in competition with alternative forms created in accordance with the new schema. Forms for a first person singular subject offer the greatest resistance to analogical replacement.

The Bermeo facts would thus seem to show the complete replacement of a morphological schema by a different, simpler, one. In principle, this could be viewed as generalized morphological restructuring. A wider consideration of the dialectological context, however, leads us to a very different conclusion regarding the possible diachronical development. The existence of more restricted changes in other dialects forces us to conclude that what we have in Bermeo is in fact the final stage in a long process which must have started with the replacement of some of the least frequent past forms by analogical forms without Ergative Displacement.

3. Partial loss of Ergative Displacement in other dialects

In the Gipuzkoan (or Central) dialect of Azpeitia, as well as in several other Central and Western Basque local dialects, we find that the older past transitive trivalent forms with a subject prefix have been lost for a second person subject (15b), but etymological forms (with ED) are still found for a first person subject, singular or plural, (15a). The forms in (15c) exemplify those for a third person subject, which never show ED because third person ergative subjects take zero agreement, and are given for comparison (the data are from Yrizar 1991):

(15) Azpeitia (Gipuzkoan)

	PRESENT	PAST
a. 'I V it to you'	dizut	nizun
'I V to him'	diddot	niddon
'we V it to you'	dizuu	giñizun (= St. Bq. genizun)
'we V to him'	diddou	geniddon (= St. Bq. genion)
b. 'you V it to me'	diäzu	ziäzun (cf. St. Bq. zenidan)
'you V it to him'	diddozu	ziddozun (cf. St. Bq. zenion)
'you V it to us'	diuzu	ziuzun (cf. St. Bq. zenigun)
c. 'he V it to you'	dizu	zizun
'he V it to us'	diu	zi(g)un

Innovative forms have been created according to the following rule: "replace *d-* of present-tense form by *z-* and add *-n*" (on the analogy of 3rd person subject forms: *dizu/zizun*)

dizu	:	zizun	's/he V it to you'
diäzu	:	x	'you V it to me'; x = ziäzun

A very similar same pattern of replacement is also found in the Bizkaian dialect of Ondarroa (data from Yrizar 1992):

(16) Ondarroa (Bizkaian)

	PRESENT	PAST
'I V it to you'	dotzut	neutzun
'I V to him'	dotzat	neutzan
'you V it to me'	dostazu	eustazun
'you V it to him'	dotsazu	zeutsan ~ eutsazun

‘you V it to us’	doskuzu	<i>euskuzun</i>
‘we V it to you’	dotzuau	<i>geuntzun</i>
‘we V to him’	dotsau	<i>geutsan</i>

The source of analogical replacement is again the pattern found in forms for a third person subject:

‘he V it to you’	dotzu	<i>eutzun</i>
‘he V it to us’	dosku	<i>euskun (~ doskun)</i>

It is interesting to notice that essentially identical patterns of morphological replacement are found in Ondarroa and Azpeitia (as well as in some other areas). In both cases the forms for a second person subject are the first ones to be analogically replaced. As these are two relatively distant dialects and, in particular, the morphology of the transitive auxiliary is rather different in the two dialects, it does not seem likely that we are dealing here with a single shared innovation that has spread from one area to the other. The idea of forming past forms from the present by adding *-n* may have spread, but the fact that the first ED forms to be replaced are those for a second person subject cannot be due to the spread of specific morphological forms.

From this and other dialectological evidence, it appears that the change always follows a specific path: the first forms to be replaced are those for a second person subject, then those for a first person plural subject may be replaced, and the last ones to remain are forms for a first person singular subject:

(17) Chronological order of replacement of past forms showing Ergative Displacement
2nd person subject > 1st pl subject > 1st sg subject

Analogical trivalent forms for a 1st person plural or 2nd person subject are quite widespread in the area surrounding Bermeo: analogical replacement in forms such as *zeuntson* → *dotsazun* ‘you V it to him (past)’, cf. present *dotsazu*, *geuntson* → *dotsagun* ‘we V it to him (past)’, cf. present *dotsagu*, has taken place, in addition to Bermeo, also in Mundaka, Busturia, Murueta, Elantxobe, Natxitua, Bakio and Lekeitio (Gaminde 1995). On the other hand, in the case of trivalent auxiliaries for a first person singular subject, the etymological forms enjoy much better health. For instance for ‘I V it to you’ in the past, variants of the type, *neutzun* are still found in most of the area, whereas the innovative *(do)tzuten* ‘I V it to you’ is restricted to Bermeo and Natxitua and in fact, in this last village *-tzuten* still competes with the etymological form *notzun*. For ‘I V it to him’ in the past the innovative *(do)tsaten* is found only in Bermeo and, as mentioned, even here the etymological form with a subject prefix *n-* is still competing for survival.

We saw above that the last ED forms to survive in Bermeo are those for a first person singular subject. The data from the surrounding dialects show that, in addition, analogical forms with subject prefixes for a first person singular have also been the last ones to appear.

4. Observations and conclusions regarding the loss of Ergative Displacement

To summarize so far:

a) The evolution that appears as essentially completed in Bermeo, has not been the result of a wholesale replacement of a rule or schema for affix concatenation by another one. Rather, what the

comparative dialectal evidence shows is that one past form has been replaced after another by other forms which are more directly derived from the present paradigm. This evolution produces stages in which there is no consistency throughout the past paradigm.

b) In intermediate stages in this path of replacement, we find more complex systems than the etymological one, where it is not possible to give a single rule to describe the patterns of agreement markers in the past paradigm and the same affix may serve different functions in different forms of the same paradigm. E.g.: in Azpeitia, whereas in *ziāzun* ‘you V it to me (past)’ the suffix *-zu-* refers to the subject, in *zizun* ‘s/he V it to you (past)’ the same suffix indicates the indirect object.

These facts suggest that at least some speakers do not internalize any general schema for producing past tense trivalent forms. Rather, forms are individually memorized (and forgotten). A fall-back strategy for producing forms which are not remembered is to add *-(e)n* to the corresponding present tense forms, based on analogy with forms for a 3rd person subject, where there is no Ergative Displacement. This strategy is what has been driving language change.⁴

5. Further developments: Loss of both past and present forms in Bakio

Aside from what the facts considered so far tell us about speakers’ strategies for building past-tense forms, a question still remains regarding the psychological reality of general schemas of morpheme-concatenation in the present-tense, which is clearly the central paradigm. For the present tense at least, do speakers internalize schemas like that in (3) above? It appears that this question too must have a negative answer.

In some northwestern Bizkaian varieties, from Elantxobe to Bilbao, and including the dialect of Bakio (Gaminde 1999), the loss of etymological trivalent forms has affected some present-tense forms as well. When a trivalent form has been lost in the present, there is now simply no agreement with one of the arguments for that particular combination of arguments. The forms that have been lost are those involving combinations of first person plural and second person arguments:

(18) Bakio: present-tense trivalent form for 3rd sg D.O.

	I	s/he	we	you	you-pl	they
to me		dost		dostezu	dostezue	dostie
to him/her	dotset	dotso	dotsegu	dotsezu	dotsezue	dotsie
to us		dosku		LOST	LOST	doskue
to you	dotzut	dotzu	LOST			dotzue
to you-pl	dotzutie	dotzue	LOST			dotzue
to them	dotsetie	dotsie	dotsegu	dotsezu	dotsezue	dotsie

It seems to me that if speakers internalized a general schema for morpheme concatenation similar to that in (3), we should not expect to find the loss of some forms that could be readily built following the same general schema as those that are preserved. The loss of the least frequent

⁴ An interesting example is found in the local dialect of Antzuola (on the Bizkaian/Gipuzkoan dialect boundary). In this dialect the form *noia* ‘I am going’ has become *noiar* in the speech of the younger generations, presumably by contamination from *nator* ‘I am coming’. Correspondingly, a new past form *noiarren* ‘I was going’ has been created, by suffixation of *-en* to the new present-tense form, replacing older *ninddoian* (Larrañaga Igarza 1998:139).

etymological forms again fails to show any awareness on the part of the speakers of any general schema for the production of the whole paradigm.

Etymological forms for ‘we V it/them to you-sg/pl’ have been replaced in discourse by bivalent intransitive forms originally meaning ‘it is/they are to you-sg/pl’ (which is reminiscent of developments in other languages such as French and Brazilian Portuguese, where impersonal constructions are frequently employed in colloquial usage when a first person plural agent is intended). Etymological trivalent forms for a second person subject, on the other hand, have been replaced by simple bivalent transitive forms, i.e. now ‘you V it’ has completely replaced ‘you V it to us’ and the only way to express the indirect object in a sentence such as ‘you give it to us’ is with an overt pronoun, without agreement on the verb.

(19) Present-tense transitive trivalent forms lost in Bakio and their replacements⁵

	<u>Lit. Bizkaian</u>	<u>Bakio</u> : replaced by
‘we V it to you’	dotzugu	(dxatzu ‘it is to you’)
‘we V them to you’	dotzuguz	(dxatzuz ‘they are to you’)
‘we V it to you-pl’	dotzuegu	(dxatzue ‘it is to you pl’)
‘you V it to us’	doskuzu	(dozu ‘you V it’)
‘you-pl V it to us’	doskuzue	(dozue ‘you V it’)

Young Bermeo speakers have also lost present-tense trivalent forms for a second person subject and a first person plural indirect object. As in Bakio, these speakers leave agreement with the indirect object unexpressed for this specific combination of arguments.

I think that the general lesson to be extracted from these facts of language change is that just because linguists can find structure in a paradigm we cannot assume that this structure has any psychological reality for speakers of the language. The structure that the analyst finds may provide cues for the historical origin of morphologically-complex forms, but not necessarily for the generalizations that speakers make. Change in progress, on the other hand, is an important source of information on the analogies, generalizations and rules that speakers do employ.

References

- Azkue, Resurrección María de. 1923-25. *Morfología vasca*. Repr., 1969, Bilbao: La Gran Enciclopedia Vasca.
- Bybee, Joan. 2000. *Phonology and language use*. Cambridge: Cambridge Univ. Press.
- Bybee, Joan & Mary A. Brewer. 1980. Explanation in morphophonemics: changes in Provençal and Spanish preterite forms. *Lingua* 52:201-242.
- Bybee, Joan & Joanne Scheibman. 1999. The effect of usage on degrees of constituency: the reduction of *don't* in English. *Linguistics* 37:575-596.
- Bonaparte, Louis-Lucien. 1869. *Le verbe basque en tableaux*. London. Repr., 1991, in *Opera Omnia Vasconice*, I:175-442. Bilbao: Euskaltzaindia.
- Egaña'tar, Aitzane. 1984. Bermeoko aditzaren azterketa lorratzak. *Bermeo* 4:13-43.
- Gaminde, Iñaki. 1995. Bermio aldeko azpi-euskalkiaren aditza (zuka). *Bermeo* 5:47-207.

⁵ Bivalent transitive forms for a non-third direct object have also been lost in this dialect. For instance, *zaitugu* ‘we V you’ has been lost and is replaced by *zara* ‘you are’ in discourse; e.g. *ikusi zaitugu* ‘we see you’ → *ikusi zara*, lit. ‘you are seen’.

THE COMPLETE LINGUIST

- . 1999. *Bakio barbarik berba*. Bilbao: Labayru ikastegia.
- Gómez, Ricardo & Koldo Sainz. 1995. On the origin of the finite forms of the Basque verb. In J.I. Hualde, J. Lakarra & R. L. Trask (Eds.), *Towards a history of the Basque language*. Amsterdam: Benjamins, 235-274.
- Laka, Itziar. 1993. The structure of inflection: A case study of X⁰ syntax. In J.I. Hualde & J. Ortiz de Urbina (Eds.). *Generative Studies in Basque Linguistics*. Amsterdam: Benjamins, 21-70.
- . 1995. *A brief grammar of Euskara, the Basque language*. Univ. of the Basque Country.
<<http://www.ehu.es/grammar/index.htm>>
- Larrañaga Igarza, Jone. 1998. *Antzuolako hizkera*. Antzuola: Antzuolako Udala.
- Ortiz de Urbina, Jon. 1989. *Parameters in the grammar of Basque*. Dordrecht: Foris.
- Pujana, Pedro. 1970. *Euskal aditza (bizkaiera): Flexiones del verbo vasco vizcaíno*. Bilbao: Editorial Geu Argitaldaria.
- Yrizar, Pedro de. 1991. *Morfología del verbo auxiliar guipuzcoano (estudio dialectológico)*, 2 vol. Bilbao: Euskaltzaindia.
- . 1992. *Morfología del verbo auxiliar vizcaino (estudio dialectológico)*, 2 vol. Bilbao: Euskaltzaindia.