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CHANGE IN ROOT RESTRICTIONS ON BASQUE ALLOCUTIVITY*

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Abstract This paper examines variation and change in embedding restrictions on Basque allocutive morphemes—person clitics marking non-thematic addressees. Recent work has described cross-speaker variation in whether allocutive morphemes are restricted to root clauses or may appear in embeddings. This paper reports on a recent survey that suggests change in progress toward loss of the root restriction. The results, moreover, indicate no cross-speaker correlation in acceptance of embedded vocatives with acceptance or use of embedded allocutives. We take the different cross-speaker distribution of allocutive morphemes and vocatives to reflect partially different representations for these forms, with vocative morphemes bearing richer functional structure and different licensing conditions.

1 Introduction

This article focuses on change in the syntax of Basque allocutive marking. We illustrate this phenomenon in (1), where the *-k* and *-n* morphemes on the auxiliary mark, respectively, agreement with a male or female informal interlocutor that is not an event participant.

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(1) *Retegik irabazi di-**k**/-**n**.*
Retegi.ERG won AUX-2SG.FAM.MASC/FEM
'Retegi has won.'

Following work by Speas & Tenny (2003) and Miyagawa (2013, 2022), the volume of formal descriptions of allocutive marking and related phenomena has expanded rapidly in recent years. Notable in this work is the coverage of varieties not previously described as having allocutive marking including Korean (Pak 2017, Kim 2019, Portner, Pak & Zanuttini 2019), Galician (Huidobro 2022), Punjabi (Kaur & Yamada 2019, Kaur 2020), Magahi (Alok 2020, 2021, Alok & Baker 2018), and Tamil (Sundaresan 2018, McFadden 2020). From these recent descriptions, two theoretical issues have emerged, which have not yet received extensive discussion in the formal literature. One emergent challenge is to explain what conditions the availability of allocutive morphemes in embedded domains. Recent results suggest that allocutive languages fall into one of two classes with respect to embedding restrictions—those in which allocutive morphemes are restricted to root domains and those in which they are available in embedded contexts as well. The formal nature of this cross-linguistic difference is discussed by Alok & Haddican (2022) and Alok (2021) and we consider some implications of this here. A second challenge is to understand how allocutive morphemes interact with other kinds of syntactic phenomena commonly taken to motivate the presence of addressee features high in the clausal sequence. Recent work by Alok & Baker (2018) and McFadden (2020) describes the interaction of allocutive marking with person indexical shift which the authors take to reflect a common syntactic locus for the two phenomena. Similarly, Slocum (2016), Portner et al. (2019), Akkuş & Hill (2021) and Haddican & Etxeberria (2022) propose that allocutivity and vocative expressions are introduced in the same Addressee-related projection.

The goal of this article is to address aspects of these two sets of issues using data from a recent judgment and translation task survey with 421 self-reported Basque allocutive users. Basque is particularly useful as a laboratory variety for probing the above two sets of issues since previous work has noted that Basque dialects vary in whether allocutive morphemes may be embedded (Hualde 2003, Azkue Ibarbia 1998, Haddican & Etxeberria 2022), and because several properties of allocutive morphemes and vocative expressions in Basque provide particularly strong evidence for positing a partially unified syntactic account of these forms (Haddican & Etxeberria 2022). In particular, the results that we will present in this paper have the following three main implications.

i. Results from both judgment and translation task data support previous reports based on uncontrolled data of cross-speaker variation between speakers with allocutive morphemes only in root contexts and those with allocutive morphology in embedded domains as well. For both sets of results, moreover, these embedding restrictions correlate with participant age with younger speakers favoring innovative embedded allocutive forms.

ii. The results fail to support Haddican & Etxeberria's (2022) claim that embedded allocutivity is insensitive to embedding type. Specifically, the translation task results suggest that embedded allocutivity is favored in *if*-clauses and relative clauses vis-a-vis complement clauses. Extending an analysis by Alok & Haddican (2022), we take this to reflect variation across individuals in the way that the head responsible for introducing allocutive clitics is licensed.

iii. The results also fail to support a claim by Haddican & Etxeberria (2022), based on uncontrolled data from a smaller set of consultants, that acceptance of embedded allocutivity correlates with acceptance of vocative expressions in embedded domains. Indeed, unlike in the case of embedded allocutivity, there is no evidence of change in progress in the distribution of embedded vocatives. We propose that the different distributions of vocatives and allocutives reflects in part the fact that the former have a richer functional structure (Hill 2013, Slocum 2016). We take this additional structure to include features bound locally by an utterance-anchoring morpheme.

Our discussion is organized as follows. Section 2 introduces the main object of study—variable root-sensitivity of Basque allocutive morphemes. Section 3 discusses some reasons for positing a partially unified approach to allocutive morphemes and vocative expressions in Basque. Section 4 describes the data set used and Section 5 presents the results. Section 6 discusses implications of the results for the syntax of root-restrictions in allocutive morphology and for the relationship between vocatives and allocutives. Section 7 briefly concludes.

2 Variable root-sensitivity of Basque allocutivity

In Basque, gender marking on person clitics within the auxiliary applies only with familiar addressees. In (2a), the *-a*/*-na* morphemes on the auxiliary mark agreement with a familiar addressee—masculine and feminine, respectively. No other person clitics—including those for non-familiar addresees—

bear gender marking. In the same dialects, and in the same sociolinguistic contexts in which allocutive agreement applies, the same forms used to mark non-thematic addressees also mark thematic addressees as in (2b).

(2) a. *Jon ikus-i d-i-**a**/**-na**-t.*
Jon see-PERF EXPL-ROOT-2SG.FAM.MASC/FEM-1SG.ERG
'I've seen John.' [Non-thematic addressees]
b. *Hi-ri ema-n d-i-**a**/**na**-t.*
2SG.FAM-DAT give-PERF EXPL-ROOT-2SG.FAM.MASC/FEM-1SG.ERG
'I have given it to you.' [Thematic addressee]

The morphemes *-a*/*-na* in (2) are elsewhere forms. Allomorphs *-k*/*-n* for masculine and feminine interlocutors, respectively, appear when the morpheme is left-adjacent to a morphological word boundary. As illustrated in (3), this allomorphy condition holds for both thematic and non-thematic addressee clitics.

(3) a. *Jon etorr-i d-u-**k**/**-n**.*
Jon come-PERF EXPL-ROOT-2SG.FAM.MASC/FEM
'John has come.' [Non-thematic addressees]
b. *Hi-k egi-n du-**k**/**-n**.*
2SG.FAM-ERG do-PERF AUX-2SG.FAM.MASC/FEM
'You have done it.' [Thematic addressee]

Much recent formal work has cited Oyharçabal's (1993) influential analysis of Zuberoan, where allocutivity is restricted to root declaratives. (4a,b), from Oyharçabal (1993), show that allocutive morphemes in Zuberoan are unavailable in complement clauses and in root questions.

(4) a. [*Manex joan-en *du-**a**-la*/*de-la*] *uste duk.*
Manex go-FUT AUX-2SG.FAM.MASC-Q/AUX-COMP think AUX
'You think Manex will go.'
b. *Lan egi-ten *di-**n**-a*/*duia hire lagunak?*
work do-IMPERF AUX-2SG.FAM.MASC-Q/AUX.Q your friend.ERG
'Does your friend work?'

Importantly, not all Basque dialects share this set of restrictions. In particular, conservative speakers of most southern and western varieties allow allocutive marking in root questions, but not in non-root domains. (See map in Figure 1).

Less well discussed outside of the Basque specialist literature is that many southern dialects freely permit allocutive clitics in embedded contexts, par-

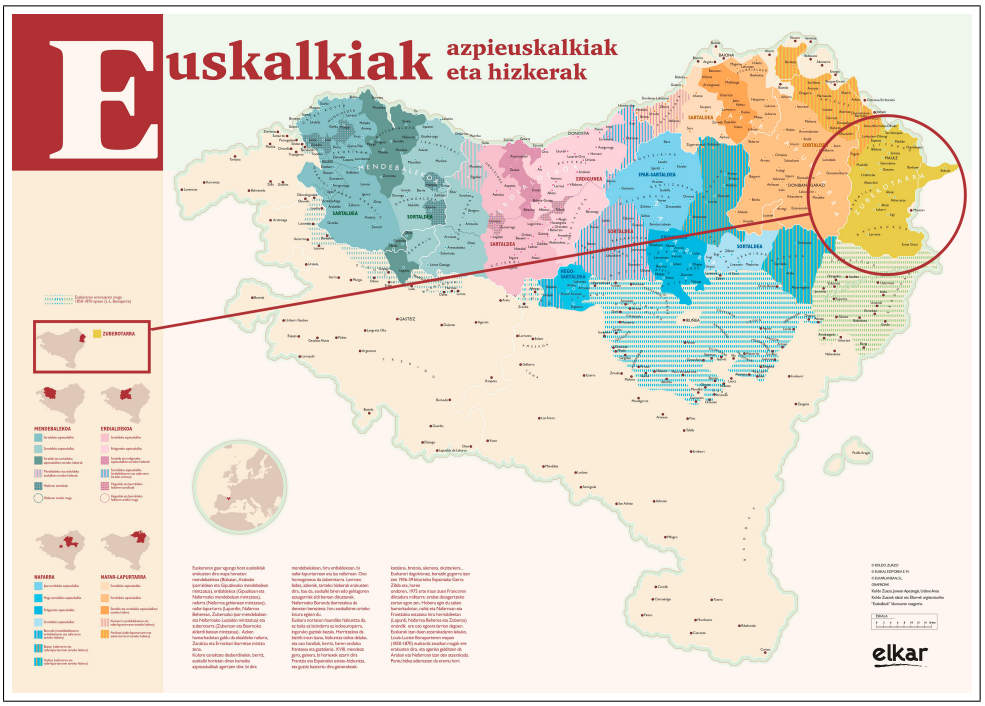


Figure 1 Zuberoan dialect within the Basque-speaking region (Zuazo 2008).

ticularly among younger speakers (Azkue 1923, Azkue Ibarbia 1998, Hualde, Oyharçabal & Ortiz de Urbina 2003, Aurrekoetxea 1994, Euskaltzaindia 2008, Haddican & Etxeberria 2022). For example, (5), from Azkue Ibarbia (1998), shows allocutive marking in both root and embedded clauses. As far as we are aware, for all such innovative speakers, if allocutive marking appears in an embedded clause, it must appear in all finite domains within the utterance, including the root clause. That is, what seems to be unattested is a pattern in which allocutive marking appears in embedded domains but not roots or in which allocutive marking appears in one finite embedded clause but not others. We summarize the attested possibilities in (6).

(5) [*Peninsula Iberica ikusi di-**a**-t-ela*] *iruitu*
Peninsula Iberian see AUX-2SG.FAM.MASC-1.ERG-COMP seem
*zaite-**k**.*
AUX-2SG.FAM.MASC
'I thought I saw the Iberian Peninsula.'
(Adapted from Azkue Ibarbia 1998)

(6) ***Attested and unattested allocutive embedding patterns***

a.	$[_{CP}$ Alloc $[_{CP} \ldots [_{CP} \ldots]]]$	[Root only (conserv.)]
b.	$[_{CP}$ Alloc $[_{CP}$ Alloc $[_{CP}$ Alloc $]]]$	[All embeddings (innov.)]
c.	$*[_{CP} \ldots [_{CP}$ Alloc $[_{CP}$ Alloc $]]]$	[Non-root only]
d.	$*[_{CP}$ Alloc $[_{CP}$ Alloc $[_{CP} \ldots]]]$	[Only some embeddings]

A question immediately raised by the innovative pattern in (6b) is whether allocutive morphemes in embedded domains are sensitive to embedding type, as described for other "embedded root" phenomena including V2 in Scandinavian (Julien 2009, Wiklund, Bentzen, Hrafnbjargarson & Hróarsdóttir 2009, Bentzen 2014) or English negative inversion (Emonds 1969, Hooper & Thompson 1973).

Based on uncontrolled results from a small sample of speakers from Ordizia and surrounding areas, Haddican & Etxeberria (2022) find no evidence that embedded allocutivity availability is sensitive to embedding type. In particular, their consultants reported no difference in the availability of allocutive morphemes across contexts including embedded declaratives, factives, temporal adjuncts and embedded *yes/no* questions, as in (7)-(9).

(7) ***Factives***
Jonek [*ba-zetorre-*(%***k***)*-ela*] *ahaztu di-k.*
Jon EPEN-come-2SG.FAM.MASC-C forget AUX-2SG.FAM.MASC
'Jon has forgotten that he/she/it is coming.'

(8) ***Temporal clauses***
[*Jon zetorre-*(%***k***)*-en*]*-ean* *ikusi-ko di-a-t.*
Jon come-2SG.FAM.MASC-C.Q-in see-FUT AUX-2SG.FAM.MASC-1SG
'When John comes, I will see him.'

(9) ***Embedded yes/no questions***
Ez zaki-a-t [*ba-zetorre-*(%***k***)*-en*] *ala ez.*
NEG know-2SG.FAM.MASC-1.ERG EPEN-COME-2SG.FAM.MASC-C or NEG
'I don't know if he's coming or not.'

Further evidence that allocutive clitics among innovative users are possible in true embeddings comes from two additional root-clause tests specific to Basque. The first is "*ba*-support", a second-position repair operation that applies only in true root contexts Ortiz de Urbina (1989), Elordieta & Haddican (2018). As described in detail in Ortiz de Urbina (1989), in contexts where repair is not needed—including in true embeddings—*ba*-support cannot apply. As shown in (10), allocutive morphemes are available in such embedded contexts where *ba*-insertion is blocked.

(10) ***Ba-support***
[(**ba-*)*zetorre-*(*%**k***)*-en*] *ekaitza.*
EPEN-come-2SG.FAM.MASC-C storm.DEF
'The storm that is coming.'

A second such test is predicate fronting in negative contexts (Laka 1990, Artiagoitia 2003, Etxepare 2003, Elordieta & Haddican 2018). Laka (1990) observes that V-Neg-Aux orders, which are never possible in root contexts, are indeed so in true embeddings including relative clauses and manner adjuncts. As shown in (11), innovative embedded allocutive users accept embedded allocutive morphemes in contexts admitting V-Neg-Aux orders.

(11) ***VP-fronting***
[*Ukatu-ko ez di*(*%**a***)*-te-en*]*-ez,* *Erreala hobea duk.*
deny-FUT NEG AUX-2SG.FAM.MASC-PL.ERG-C-as Real better COP
'As they won't deny, Real are better.'

3 Allocutives and vocatives

As discussed briefly in the introduction, some recent work has suggested a syntactic relationship between allocutivity and vocative expressions, such as the initial DP in (12) (Slocum 2016, Portner et al. 2019, Akkuş & Hill 2021, Haddican & Etxeberria 2022).

(12) My friend, you need to wear a mask.

Specifically, this literature has noted three main similarities between these expressions that suggest a unified syntactic approach. First, both vocatives and allocutives refer to addressees, and express not-at-issue meaning (Slocum 2016, Portner et al. 2019, Haddican & Etxeberria 2022). Second, several kinds of evidence and especially word order facts have led scholars of both phenomena to posit a first-merged position for these morphemes high in the functional sequence of the clause (Hill 2007, 2013, Portner et al. 2019). Third and finally, like allocutive morphemes in certain allocutive varieties at least, vocative expressions are often taken to be available only in root contexts (Hill 2007, 2013, Slocum 2016).

In the case of Basque, specifically, Haddican & Etxeberria (2022) note that two additional sets of facts motivate a syntactic relationship between allocutive markers and vocative expressions. The first of these is that some conservative speakers have vocative pronouns, that, like allocutive morphemes, agree in gender with the addressee only for familiar interlocutors.

(13) *Txo/ño,* *berandu du-**k/n**.*
VOC.FAM.MASC/VOC.FAM.FEM late AUX-2SG.FAM.MASC/FEM
'Yo, it's late.'

These vocative pronouns and allocutive clitics are the only two contexts in which grammatical gender is marked in Basque. The two forms, moreover, are identical in sociolinguistic distribution for relevant lects. That is, the same interlocutors and speech contexts favoring the use of the forms in (13), also favor allocutive clitics. Moreover, in common meta-linguistic parlance, the use of allocutive morphemes is referred to by these vocative expressions. That is, using allocutive clitics with a male interlocutor is referred to as *to-ka* ('*to*-doing') and with a female interlocutor as *no-ka* ('*no*-doing').[1]

A second kind of evidence from Basque, specifically, suggesting a representational relationship between vocative expressions and allocutive morphemes comes from patterns of clitic doubling. A well-described property of person clitics on the finite auxiliary in Basque is that they can nearly always co-occur with an overt DP associate (Ortiz de Urbina 1989, Laka 1990, 1993, Arregi & Nevins 2012). In (14), for example, the first person clitic on the auxiliary is obligatory but the free pronoun *ni* is "optional" in the sense that it can be omitted in determined pragmatic contexts, but may freely appear. The first person pronoun-clitic combination in (14) corresponds to an absolutive-marked argument but the same optionality in doubling applies to ergative and dative person arguments as well. A question that arises in this light is whether allocutive clitics may also have a free DP associate or whether they are exceptional among person clitics in disallowing doubling. The latter case would be particularly striking since, as described above, allocutive clitics behave identically to thematic clitics in terms of exponence and allomorphy rules. As shown in (14), the allocutive clitic can appear with a second-person expression, but this is interpreted as a direct address, i.e. with a non-participant role, like the gender and familiarity-matched allocutive clitic.

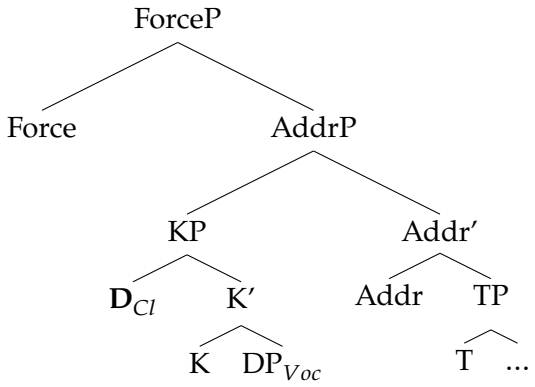
(14) *(Txo),* **(*ni*)** *etorr-i* ***na**-u-k.*
VOC.FAM.MASC 1SG see-PERF 1SG-ROOT-2SG.FAM.MASC
'I have come.'

These considerations, therefore, suggest a more specific characterization of the relationship between vocative constituents and allocutive clitics, namely that the relation between them is parallel to that between thematic clitics and their DP associates. Building on similar proposals in Slocum (2016) and

1 The forms *txo/ño* in (13) with palatalization on the initial consonants are diminutive variants.

Portner et al. (2019), Haddican & Etxeberria (2022) take vocatives to be introduced in the same projection, AddrP. Specifically, Haddican & Etxeberria (2022) take the clitic and DP associate to be introduced in a big DP structure of category KP, as in (15) (Uriagereka 1995, Nevins 2011, Haddican 2018).

(15)



Haddican & Etxeberria (2022) propose that the cross-lectal difference in the availability of embedded allocutivity reflects whether the Addr head that introduces the Addressee-related KP is licensed in embedded domains. In conservative dialects, this head is only licensed in the local domain of an utterance anchoring morpheme present only in true root contexts. In the grammar of innovative speakers, this restriction on Addr is absent. A prediction of this approach, as Haddican & Etxeberria (2022) note, is that the availability of embedded allocutivity should correlate across speakers with the availability of embedded vocative expressions, if, indeed the two constituents are introduced in the same KP structure. In the data set they report on based on a limited sample of Ordizia-area speakers, this prediction is in fact borne out.

We take the Addr head, in whose projection this KP is introduced, to be a species of applicative morpheme following Huidobro's (2022) analysis of Galician.[2] In the case of Galician, the motivation for taking allocutive clitics to be applicative-like is particularly clear since allocutive clitics are near identical to thematic datives in Galician in terms of exponence, portmanteau clitic formation rules and proclisis/enclisis constraints: see Álvarez Blanco (1997), Carbón Riobóo (1995), Huidobro (2022), Alok & Haddican (2022)

(16) *Non* ***che*** *me dá pena ningunha.*
no 2SG.FAM 1SG give sorrow any
'It doesn't make me feel bad at all.' [Galician]
(Álvarez Blanco 1997: 38)

2 This recalls proposals by Miyagawa (2012) and Haegeman & Hill (2013) that take speech act projections to have a shell structure parallel to verbal shells and in which the HEARER role is parallel to the indirect object in thematic structure.

In Basque, the comparison between thematic dative clitics and allocutive clitics is somewhat more opaque because it is not clear that exponence of these morphemes is ever directly conditioned by case. There is, however, one telling distributional parallel between thematic dative morphemes and allocutive clitics, namely that these are the only two morphemes that trigger a *u*→*i* root vowel change on transitive auxiliaries (Rebuschi 1981, 1984). Example (17a) shows a monotransitive auxiliary with a *u*-root. (17b) shows that the addition of an allocutive clitic triggers an *i* root vowel on the auxiliary, as does the addition of a thematic dative as in (17c). Following Haddican & Etxeberria (2022) and Alok & Haddican (2022), we therefore take the Addr head of (15) to be an applicative morpheme that introduces a DP/KP interpreted not as an event participant, but rather as a speech-act participant.

(17) a. *Egin-go d-**u**-t.*
do-IRR EXPL-ROOT-1SG.ERG
'I'm going to do it.' [transitive non-allocutive]

b. *Egin-go d-**i**-**a**-t.*
do-IRR EXPL-ROOT-2SG.FAM.ERG-1SG.ERG
'I'm going to do it.' [transitive allocutive]

c. *Eman-go d-**i**-a-t.*
give-IRR EXPL-ROOT-3SG.DAT-1SG.ERG
'I'm going to give it to you.' [ditransitive]

Given, then, evidence of innovative embedded allocutive forms reported in Aurrekoetxea (1994), Azkue Ibarbia (1998), Euskaltzaindia (2008) and Haddican & Etxeberria (2022), the preceding discussion of the relationship between allocutive morphemes and vocative expressions leads to three specific predictions about cross-speaker variation in the distribution of these forms, which have not been addressed with controlled data.

(18) ***Summary of predictions***

i. Given reports that embedded allocutivity is favored by younger speakers (Azkue Ibarbia 1998, Hualde et al. 2003), we expect an age effect in the distribution of these forms in both production and judgment data.

ii. If, as Haddican & Etxeberria (2022) claim, embedded allocutivity is insensitive to embedding type, we expect no variation across different embedding types.

iii. If, as Haddican & Etxeberria (2022) propose, vocatives and allocutives are licensed in the same contexts, the availability of embedded vocatives and embedded allocutives should correlate across participants.

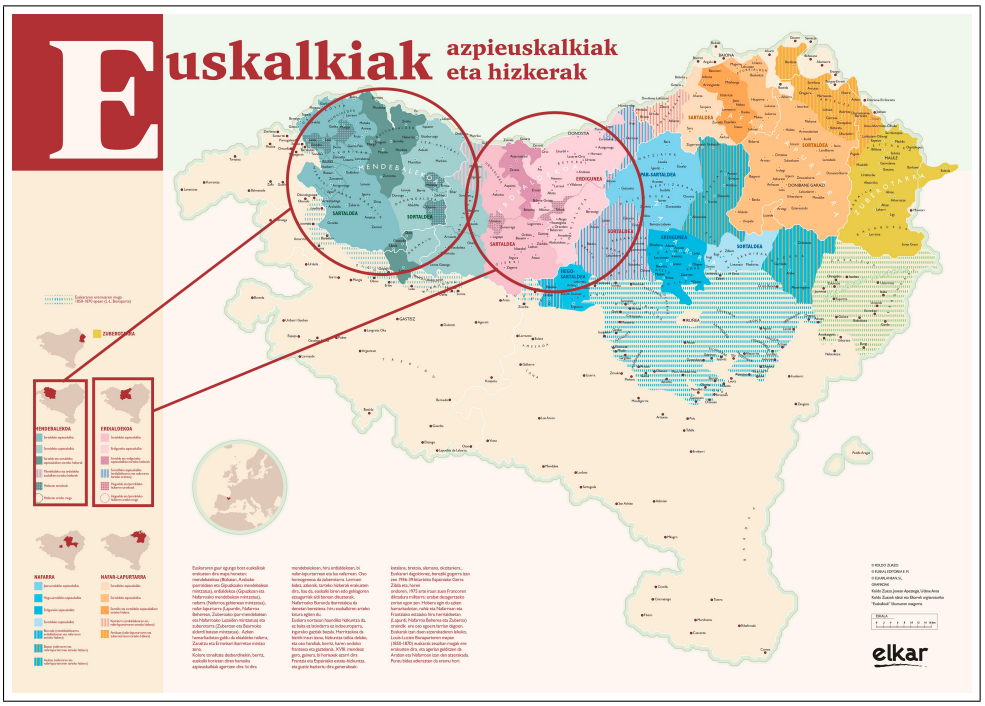


Figure 2 Bizkaian (L) and Gipuzkoan (R) dialects within Basque-speaking region (Zuazo 2008).

In the next section, we describe a judgment and production study intended to address these predictions.

4 A JUDGMENT AND PRODUCTION STUDY

Participants were 421 self-reported allocutive users, recruited via Twitter and email. The distribution of participants' self-reported genders were 3 non-binary, 156 women, 261 men and 1 no response. The relatively large number of responses by participants self-identifying as men may reflect the fact that allocutivity in most southern communities is used more often by men than women and is in fact more often acquired by boys than girls (Echeverria 2003, Elustondo & Epelde Zendoia 2023). Participants ranged in age from 18 to 71 (M=41.3), and were mainly from western Gipuzkoan and Bizkaian dialect areas, which have the largest populations of allocutive users. (See Figure 2.)

Data were gathered in 2020 and 2021 via an online survey hosted on *Ibex Farm* (Drummond 2013) and *PCIbex Farm* (Zehr & Schwarz 2018). Participants completed three tasks during the procedure. The first was a judgment task, which consisted of two simple experiments with vocative/allocutive morphemes in root vs. embedded contexts, in matched lexicalizations. Examples of these sentence types are given in (19) and (20).

(19) ***Example lexicalization, vocative comparison***

a. ***Motel***, *ikusiko dugu* [*ea astelehenean argazkiak bidaliko dituzten*].
Dude, see.FUT AUX if on.Monday photos send.FUT AUX
'Dude, we'll see if they'll send the photos on Monday.' [Root]

b. *Ikusiko dugu* [*ea astelehenean,* ***motel****, argazkiak bidaliko dituzten*]. [Embedded]

(20) ***Example lexicalization, allocutive comparison***

a. *Jonek pentsatzen di-**k*** [*etorriko d-ela*].
Jon think AUX-2SG.FAM.MASC come.FUT AUX-C
'Jon thinks he'll come.' [Root]

b. *Jonek pentsatzen di-**k*** [*etorriko du-**k**-ela*]. [Embedded]

Participants were assigned to one of two counterbalanced lists with two unique lexicalizations for each of these four conditions (= eight experimental items/participant). In these materials were interleaved eight fillers/participant, half good and half bad. In each trial, participants were asked to judge a stimulus sentence at the top of the screen using a 7-point scale arranged horizontally and increasing from left to right, with continuum endpoints labeled *Gaizki* 'bad' and *Ondo* 'good'. Participants were told they could make their selection by clicking on one of the numbers or using their keyboards. An example trial from the judgment subdesign is given in Figure 3.

The second component of the survey was a Spanish-to-Basque translation task, based on Azkue Ibarbia's (1998) and Etxabe & Garmendia's (2003) studies of allocutive use in Zumaia and Zaldibia respectivly. The Spanish stimulus sentences were chosen to elicit a range of different embedding types in responses including, declaratives under verbs of saying, restrictive relative clauses, embedded *wh-* and *yes/no*-questions, *because*-clauses and temporal adjunct clauses. Spanish items were also designed to bias production of different kinds of auxiliary forms by tense marking and by person clitic combination. A list of the Spanish items and their English translations are given in the appendix. An example trial for the translation subdesign is provided in Figure 4. In each trial, participants were asked, "How would you say the following sentence in your *everyday Basque*—that is in your local dialect.

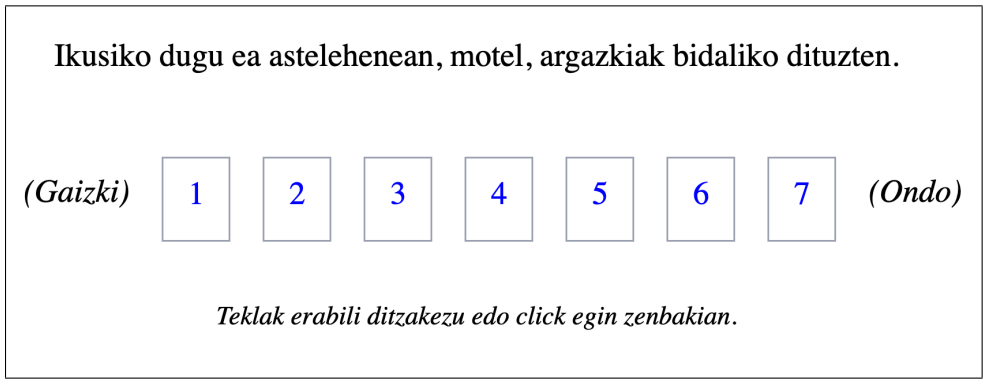


Figure 3 Example trial for the lexicalization in (19b).

(Speaking with a female friend or a male friend—your choice.)" The sentence to translate appeared below these instructions above the response field.

The survey concluded with a set of demographic questions focused on participant age, gender, hometown and context of acquisition. Specifically, each participant was asked if they used allocutive forms with: (i) their parents; (ii) their friend group; (iii) their brothers and sisters and (iv) their grandparents, aunts and uncles. They were also asked where they learned allocutivity, i.e. at home, at school or within the community.

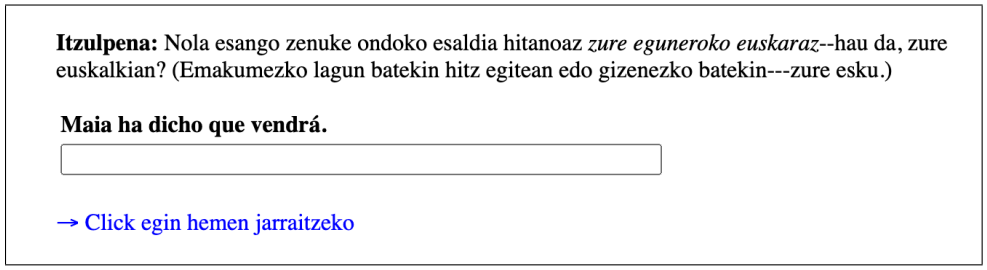


Figure 4 Example trial for the translation task.

5 Results

We begin with the judgment task results. Mixed effects modeling was carried out using the *lme4* package in R (R Core Team 2021, Bates, Mächler, Bolker & Walker 2015). Significance of effects was estimated using the *lmerTest* package (Kuznetsova, Bruun Brockhoff & Haubo Bojesen Christensen 2016). The

dependent variable was the response to each trial normalized against each participant's mean score for the fillers, i.e. Rating-M_{Filler}. Variables were selected in a step up procedure with models compared via likelihood ratio tests.[3] A model summary for the judgment data is given in Table 1.

	Estimate	Std. Error	df	t value	Pr(>|t|)
(Intercept)	3.08	0.49	26.71	6.30	0.000
Embedded voc. score	-0.03	0.07	405.78	-0.41	0.683
Clause (*Root*)	-0.88	0.54	404.46	-1.63	0.103
Age	-0.03	0.01	405.15	-3.45	0.001
Parent input (*Yes*)	0.50	0.23	404.47	2.20	0.029
Voc. score:Root clause	0.11	0.10	404.50	1.19	0.235
Clause (*Root*):Age	0.05	0.01	404.20	4.45	0.000
Root(*Root*):Parent input (*Yes*)	-0.66	0.30	403.87	-2.17	0.031

Table 1 Summary of a linear mixed effects model of allocutive sentence ratings in judgement task, with by-participant random slope and correlated intercept for clause and random by-item random intercept. N=409, Observations=1636. Reference levels *Embedded* for clausal context and *No* for Parent input. Model formula: lmer(Response ~ Embedded vocative score * Clause + Age * Clause + Parent allocutive input * Clause + (Clause + 1 | Participant)+(1 | Item), data).

The analysis supports three main findings of interest. First, the model reveals no significant effect of embedded vocative ratings. That is, participants' mean ratings for embedded vocative sentences are not predictive of their judgments for embedded allocutive forms. The results, therefore, fail to support the correlation observed by Haddican & Etxeberria (2022) in their smaller Ordizia-area sample where acceptance of embedded allocutive forms correlated across speakers with acceptance of embedded vocatives.

A second key outcome of the analysis in Table 1 is an interaction between participant age and clausal context (root vs. embedded) such that acceptance of embedded allocutive patterns is negatively related to speaker age, while acceptance of root-only allocutive patterns increases with speaker age. We illustrate this in Figure 5, showing model estimates for the interaction term. That embedded allocutive marking should be accepted more readily among younger participants, is, again, expected, given descriptions in recent literature. More surprising, and not entailed by the results for embedded alloc-

3 In this analysis, data from participants from Northern Dialects (from the three provinces of the Basque Country in France), for whom Spanish proficiency is less straightforwardly assumable were excluded.

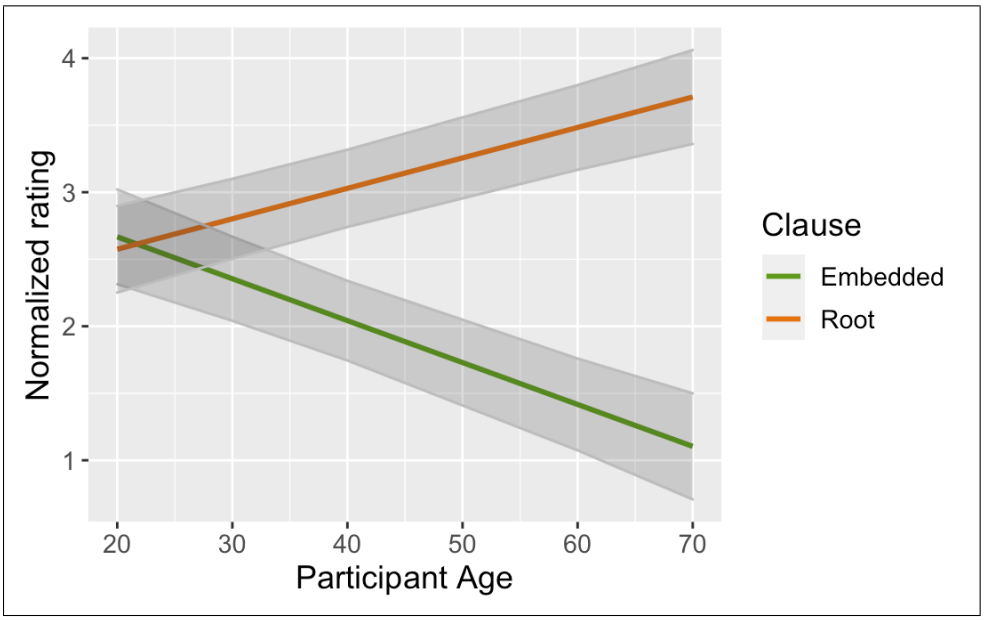


Figure 5 Model estimates for Participant age:Clause.

utive conditions, however, is the *decrease* in acceptance of root-only allocutive patterns among younger speakers. The fact that these two distributions are "yoked" in independent measurements suggests the possibility of competition between two grammars, one producing root-only allocutive patterns and one producing allocutive patterns in both root and embedded domains (Kroch 1989, 1994).

A third important outcome of the model summarized in Table 1 is the interaction between clausal context and whether speakers reported that their parents spoke to them using allocutive forms.[4] Importantly, the analysis revealed greater tendency toward embedded allocutive marking among participants who reported that their parents spoke to them using allocutivity vs. those who reported that they did not. We illustrate this in Figure 6, again showing model estimates for the interaction term. This result, then, is inconsistent with common popular metalinguistic discourses that the emergence of embedded allocutivity is related to deficient input. Analysis of other possible predictors based on self-reported contexts of acquisition of allocutivity, i.e. whether they spoke allocutivity with friends at school and/or with grand-

4 Specifically, participants were asked, "Do/did your parents speak to you using allocutivity?" (Gurasoek egiten al dizute/zizuten hika?)

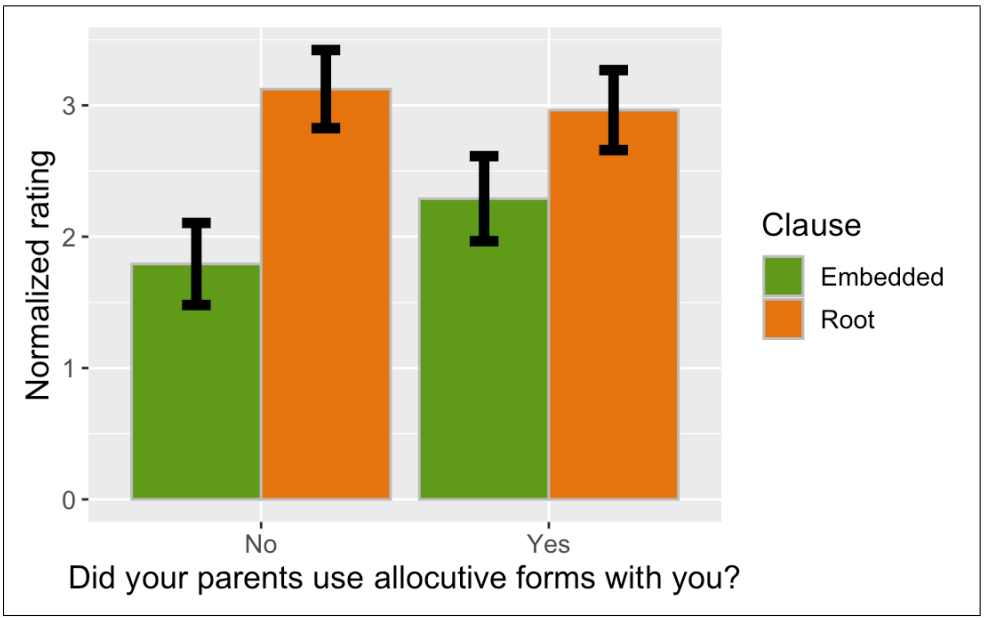


Figure 6 Model estimates for Parent input:Clause.

parents, aunts and uncles, revealed no significant effect.

Aligned with several of the main outcomes for the judgment results just summarized are the translation task data. A summary of a generalized linear mixed effects model of the translation task data appears in Table 2. The dependent variable here is whether the participant used allocutive marking in only the root clause or both root and embedded clauses.[5] The model reveals three main outcomes most relevant to the discussion.

First, the analysis reveals no effect for acceptance of embedded vocatives on the translation task results. This aligns with the results from the judgment task data where acceptance of embedded vocatives also failed emerge as a significant predictor of acceptance of embedded allocutives.

Second, Table 2 summarizes an Age effect, with participant Age negatively correlated with acceptance of embedded allocutivity. That is, the effect of participant age in the judgment data, with younger participants favoring embedded allocutive forms, is supported by the translation task results.

5 *Because*-clauses are excluded from the analysis because participants used several different constructions in their responses, plausibly of different natures in terms of their embedding structure.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	3.03	0.38	7.94	0.000
Age	-0.09	0.01	-7.36	0.000
Embedding (*If*)	1.15	0.25	4.55	0.000
(*Other*)	-2.93	0.20	-14.41	0.000
Gender (*Masculine*)	0.91	0.18	5.08	0.000

Table 2 Summary of a generalized linear mixed effects model predicting embedded allocutive responses in translation task, with by-participant random intercept. N=397, Observations=2936. Reference levels *Feminine* for gender and *Relative* for Sentence type. Participants from Northern dialects excluded. Model formula: glmer(Response ~ Gender + Embedding type + Age + (1 | Participant), data, family=binomial, control=glmerControl(optimizer="bobyqa")).

Third, the analysis reveals an effect of morphological gender such that participants using masculine morphology favor innovative embedded allocutive responses. We take this to reflect the fact that masculine forms are better preserved by younger, innovative speakers. As noted earlier, allocutive use is more frequent to and from male speakers. In our data set, masculine morphology was overwhelmingly preferred by male speakers and feminine marking by female participants, and morphological gender emerged as a better predictor in the modeling than participant self-reported gender.

Fourth and finally, Table 2 lists a main effect of embedding type with *if*-clauses the most propitious environment for embedded allocutive forms followed by relative clauses, followed by other clause types. We illustrate this effect in Figure 7, which shows raw proportions of embedded vs. root responses by embedding type.

In addition, the hierarchy of embedding contexts in Figure 7 is predictive at the level of individual speakers. That is, by and large, participants only use allocutive marking in embeddings under verbs of saying if they also do so in *if*-clauses, but not vice-versa. We illustrate this in the Venn diagram in Figure 8, which shows proportions of embedded allocutive responses in three embedding types—*if*-clauses, relatives and complements of verbs of saying by speaker. Taking into account, as well, the cross-dialectal variation in conservative dialects, we then observe the following implicational hierarchy of contexts.

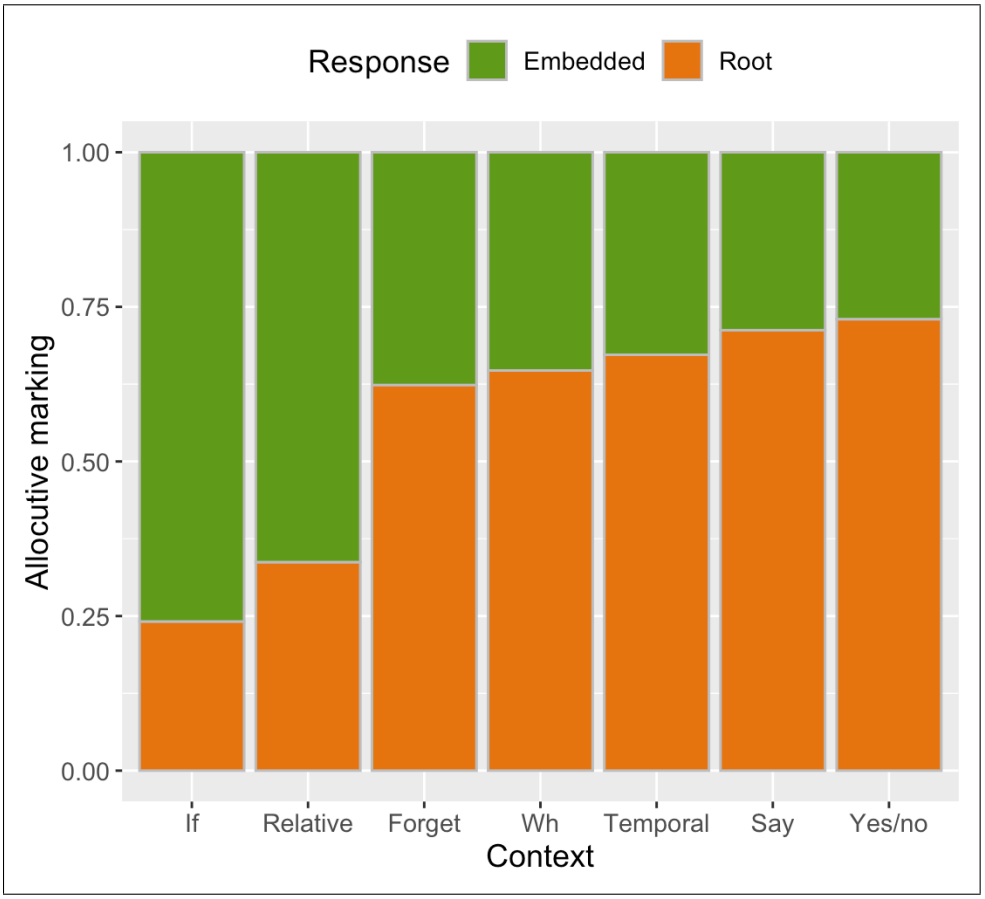


Figure 7 Translation task responses by context.

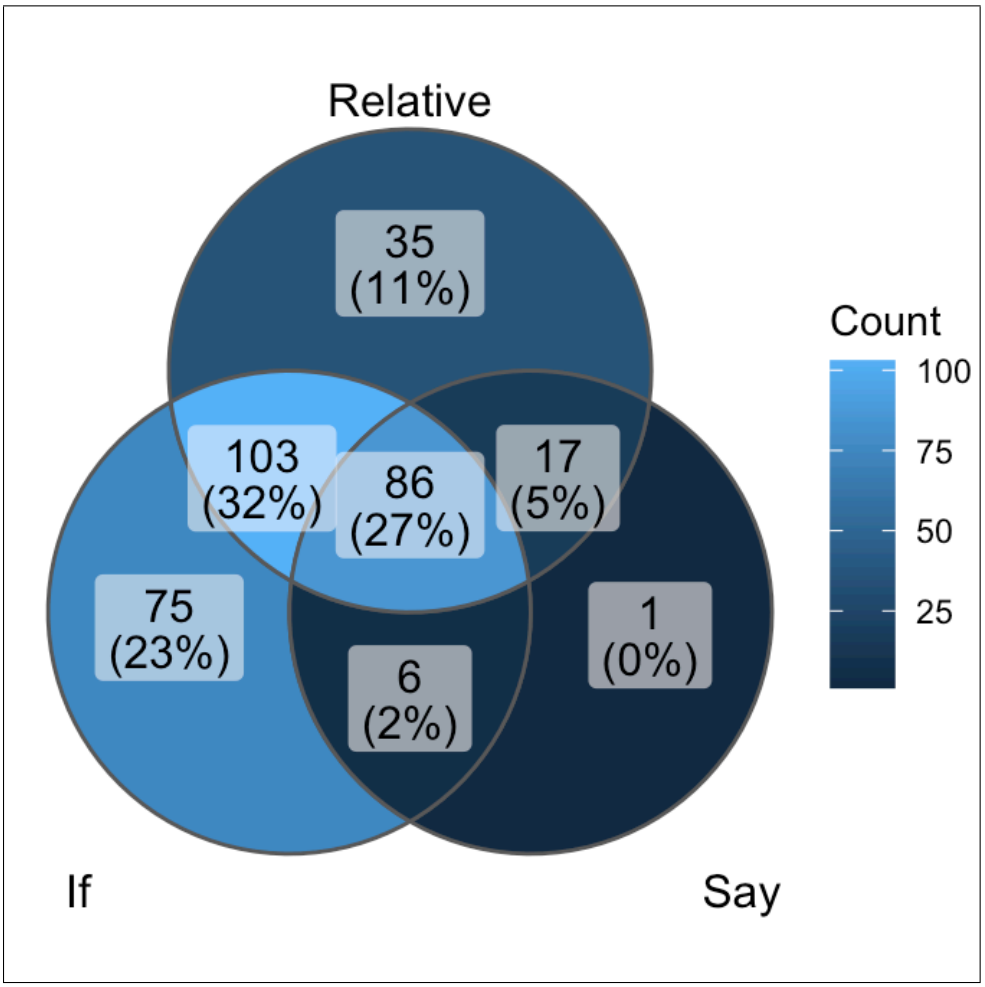


Figure 8 Distribution of embedded allocutive responses pattern by context.

(21) ***Hierarchy of embedding type effects on allocutive morphemes:***
Root declaratives > Root questions > *If*-clauses > Relatives > Other finite embeddings

6 Discussion

The results just presented from both judgment and translation task data support previous reports of age effects on embedded allocutivity (prediction (i) in (18)). We take these age effects to reflect change in progress, there being

no sociolinguistic motivation that we can see for taking the variable presence of root-restrictions on allocutive marking to be age-graded behavior.

The data presented, however, fail to support two other predictions introduced earlier. First, contra Haddican & Etxeberria (2022), the translation task data do indeed suggest an effect of embedding type on use of embedded allocutive morphemes with *if*-clauses and relative clauses favoring embedded allocutivity relative to temporal adjunct clauses and complement clauses (cf. prediction (ii.) (18)). Etxabe & Garmendia (2003), based on translation task data from a smaller (N=47) sample in the Gipuzkoan variety of Zaldibia, also report that *if*-clauses are favored relative to other embedded contexts as hosts for allocutive clitics. A second misprediction of Haddican & Etxeberria (2022) is a cross-speaker correlation of acceptance of embedded vocatives and acceptance/production of embedded allocutives. That is, in neither the judgment data nor the translation task data do we observe any correlation across speakers with acceptance of embedded vocatives (cf. prediction (iii.) (18)).

In the remaining discussion, we address these two mispredictions. Specifically we focus on two questions: (i) what accounts for the hierarchy of contextual effects on embedded allocutive morphemes in (21)? and (ii) why, despite considerable evidence for taking allocutive morphemes and vocative expressions to have the same syntactic locus, is no cross-speaker correlation between embedded vocative scores and embedded allocutive judgments/production observed in our data set?

6.1 Embedding type effects

Our analysis of the hierarchy of embedding contexts summarized in (21) extends an analysis by Alok & Haddican (2022) for the top portion of the hierarchy. Recall the cross-dialectal variation described by Hualde (2003): (i) in the most conservative varieties, including Zuberoan, allocutive morphemes are restricted to root declaratives; (ii) in other varieties, allocutive morphemes are restricted to root contexts (declaratives and interrogatives);[6] and (iii) among innovative younger speakers in southern dialects, allocutive morphemes are

6 Allocutive morphemes do not appear in imperatives, possibly for independent reasons. Basque imperatives appear in both non-finite (i) and finite (ii) forms.

(i) J-oa-n!
EPEN-go.INF
'Go!'

(ii) H-oa!
2SG.FAM-go
'Go!'

possible in both root and embedded clauses.

From the perspective of truncation-based approaches to root/embedded asymmetries, an initially appealing approach to these differences is that they reflect different first-merged positions of the allocutive clitic (Julien 2009, Wiklund et al. 2009, Haegeman & Hill 2013). That is, in conservative dialects, one might take the allocutive morpheme to be introduced in a high position available only in true root contexts, as proposed by Miyagawa (2012) for Zuberoan. (See also Portner et al.'s (2019) analysis of root restrictions in Korean allocutivity and Miyagawa's (2012) analysis of Japanese *-mas-*.) Innovative varieties, in this scenario, would allow allocutive clitics to be introduced in a lower projection available in both root and embedded domains. From this perspective, the difference between Zuberoan, where allocutive morphemes are restricted to root declaratives, and conservative southern dialects, where they are available in both root questions and root declaratives, might be attributed to a difference in position such that, in the former case but not the latter, the allocutive clitic blocks the syntactic movement responsible for interrogative flip (Speas & Tenny 2003, Woods 2014, Zu 2017, Bhadra 2018).

However, as noted by Alok & Haddican (2022), these embedding restrictions appear wholly uncorrelated with other properties indicative of different first-merged positions for these clitics. We take three sets of facts to be most telling in this light. First, there is no difference between conservative and innovative varieties in the placement of the allocutive morpheme. The allocutive morpheme appears in different positions in the auxiliary, depending on several factors including tense and the presence of other person clitics (Rebuschi 1981, Albizu 1997, Arregi & Nevins 2012, Haddican 2018). But, what it appears completely *insensitive* to is whether it sits in an embedded vs. root clause or whether the speaker has the innovative vs. conservative pattern.

A second null result comes from patterns of allomorphy. As noted in section 2, allomorphy between *-k*/*-n* and *-a*/*-na* forms is governed by whether the allocutive morpheme abuts a word boundary to its right.[7] In (22a), forms *-k*/*-n* are determined because these appear left-adjacent to a word boundary. In

In the former case, allocutive marking is not possible, presumably for the independent reason that allocutive clitics, like all person clitics, are not possible in non-finite constituents. Their unavailability in the latter case is presumably attributable to the more general restriction that allocutive morphemes cannot co-occur with a second person argumental clitic, here *h-* (Oyharçabal 1993).

7 The same rule governs allomorphy between 1sg. clitic forms *-t* and *-da*

(i) a. *Eman-n d-i-**t**.*
give-PERF EXPL-ROOT-1SG
'He/she/it/they gave it to me.' [1sg. clitic adjacent to word boundary, > *-t*]

(22b) where the form is auxiliary-internal, adjacent to no word edges, forms *-a/-na* are determined.

(22) a. *Jon etorr-i d-u-**k/-n**.*
Jon come-PERF EXPL-ROOT-2SG.FAM.MASC/FEM
'John has come.' [Alloc. clitic adjacent to word boundary]
b. *Jon ikus-i d-i-**a/-na**-t.*
Jon see-PERF EXPL-ROOT-2SG.FAM.MASC/FEM-1SG.ERG
'I've seen John.' [Alloc. clitic word internal]

There is variation across dialects and speakers, however, in how complementizer morphemes *-ela* and *-en* condition this variation. Our translation task results, for instance, included the two responses in (23), to identical stimulus items, both by male speakers in their 20's from Zarautz, a Gipuzkoan variety. The first of these shows the *-a-* allomorph before the interrogative complementizer, *-en*, while the second shows the *-k* allomorph. Similar variation is observed in embedded declarative contexts with *-ela*.

(23) a. *Ez z-eki-a-t* [*zeinek irabazi-ko*
NEG EXPL-KNOW-2SG.FAM.MASC who win-FUT
*d-i-**a**-(e)n*].
EXPL-ROOT-2SG.FAM.MASC-COMP
'I don't know who will win.'
b. *Ez z-eki-a-t* [*zeinek irabazi-ko*
NEG EXPL-KNOW-2SG.FAM.MASC who win-FUT
*d-i-**k**-en*].
EXPL-ROOT-2SG.FAM.MASC-COMP
'I don't know who will win.'

A reasonable suspicion in light of these facts is that they reflect different syntactic positions of the allocutive morpheme. The *-a-* form in (23a), for example, might reflect a position inside a higher constituent where the allocutive clitic and complementizer are sent to spell out together, thus satisfying the allomorphy condition for *-a-*. The *-k* form, by contrast, might be taken to be in a lower position, spelled out in a constituent excluding the complementizer, and thus feeding the allomorphy conditions determining "word-final" *-k*. This putative difference in position might perhaps be related to their embeddability, perhaps along the lines of truncation-based analyses. Nevertheless, as illustrated in (23), both forms appear robustly in the data set in em-

b. *Zu-k eman-n d-i-**da**-zu.*
you-ERG give-PERF EXPL-ROOT-1SG-2SG
'You gave it to me.' [1sg. clitic word internal, > *-da*]

bedded contexts. Hence, whatever the nature of the mechanism governing this variable allomorphy, it is insufficient to express the cross-lectal difference in embeddability of allocutive clitics.

A final reason for skepticism toward an approach that expresses the cross-dialectal differences in terms of truncation and different first-merged positions is that the allocutive clitic in all varieties appears to occupy a fairly low position—one below routinely embeddable morphemes in all dialects and therefore a position below the truncatable speech-act layer posited by Speas & Tenny (2003), Miyagawa (2012), Haegeman & Hill (2013) and Portner et al. (2019). (24), for example, shows that allocutive clitics appear to the left of first person ergatives clitics. Similarly, in (25), the allocutive clitic appears below the position of evidential particles, and inside the past-tense marking final *-n*.[8]

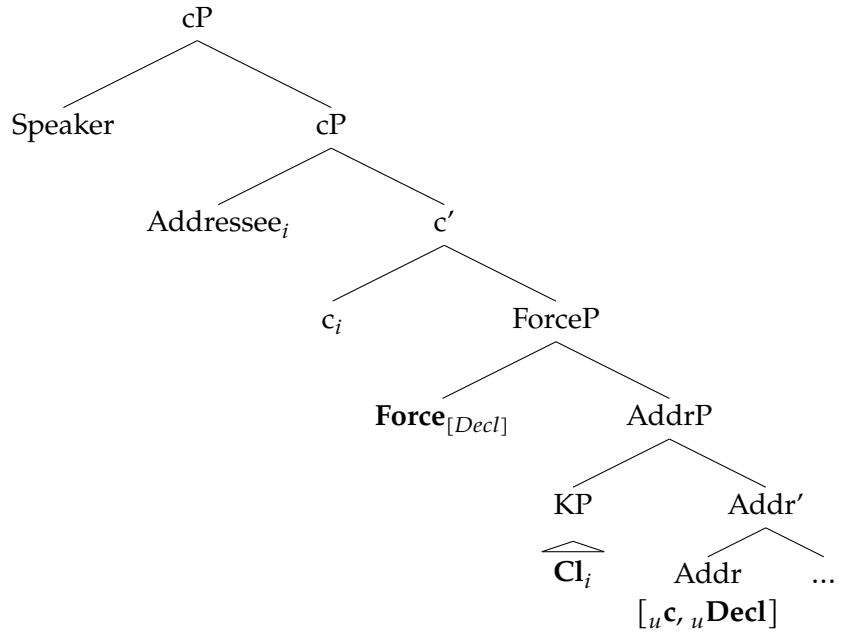
(24) *Jan d-i-**a**-gu.*
eat EXPL-ROOT-2SG.FAM.MASC-1PL.ERG
'We have eaten it.'

(25) *Jon etorr-i omen z-u-**a**/**-na**-n.*
Jon come-PERF EVID EXPL-ROOT-2SG.FAM.MASC/FEM-T
'John allegedly came.'

Following Alok & Haddican (2022), we take these facts to indicate that the allocutive clitic is in fact introduced in the same position across dialects. We propose that differences across dialects/speakers in embedding restrictions reflects variation in the way that the head responsible for introducing the allocutive clitic is licensed. Specifically, we take this head to be of category Appl, whose argument is interpreted as a speech act participant—specifically an addressee—rather than an event participant. In Zuberoan, the most restrictive variety, Addr is licensed only in the local domain of Force and a speech-act anchoring head, c, available only in root contexts (Portner et al. 2019). Specifically, we take this licensing requirement to reflect an agreement relation between Addr and targets of agreement, Force and c.

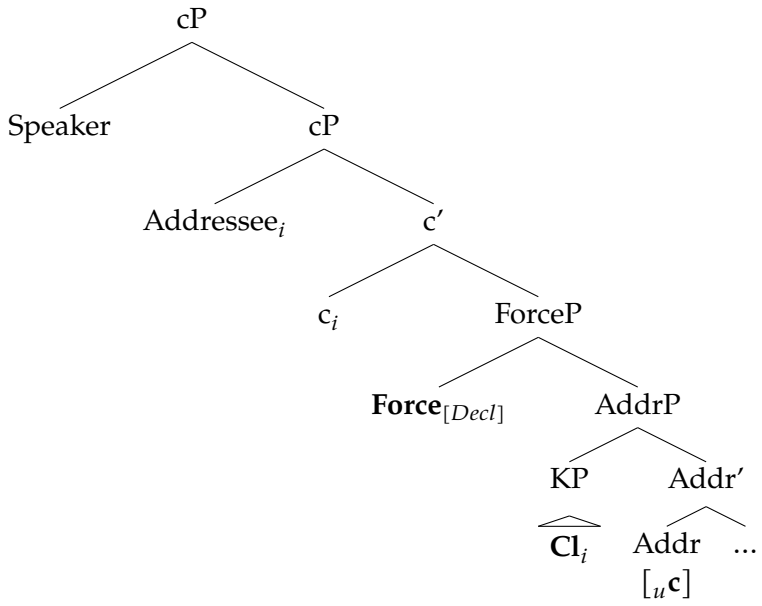
8 This element has been analyzed in different ways in the literature, as an exponent of T (Laka 1993) or of a tense-inflecting C head (Arregi & Nevins 2012). In either case, what is important here is that the allocutive clitic appears inside morphemes that are ordinarily licit in embeddings.

(26) ***Zuberoan***



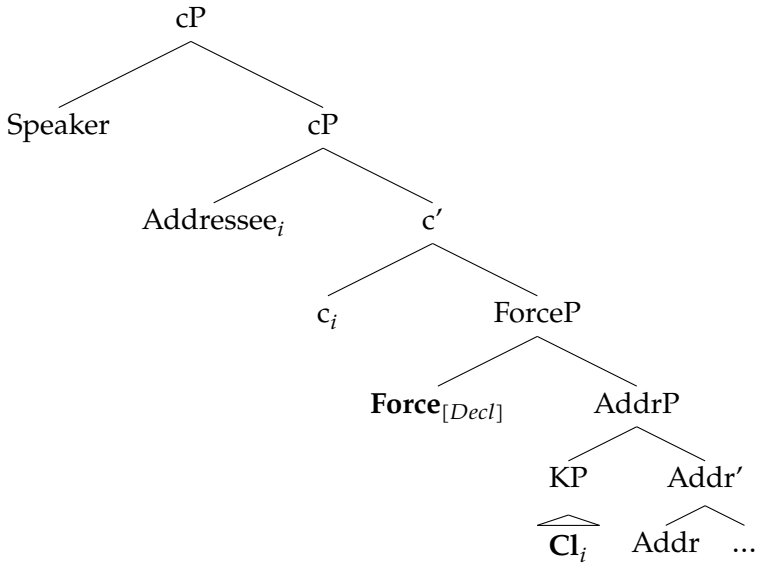
Conservative southern dialects, where allocutive morphemes are licit in both root questions and root interrogatives, differ minimally in lacking Force licensing as in (27).

(27) ***Conservative southern varieties***



And, finally, innovative southern varieties lack both restrictions (28), with the consequence that allocutive clitics are possible in all finite contexts.

(28) ***Innovative southern varieties***



We propose to extend this approach to cross-dialectal differences to provide a partial account of the difference between *if*-clauses and complement clauses in Figure 7. Bhatt & Pancheva (2006) propose that the structure of *if*-clauses is fundamentally the same as that for free relatives. Free relatives have a structure akin to that for root *wh*-questions, with operator movement as in (29). Free relatives are interpreted as definite descriptions with the variable abstracted over bound by a definite operator, as in (29b).

(29) what John bought

a. LF: wh$_x$ C^0 John bought x
b. *i*x[John bought x]
(Bhatt & Pancheva 2006)

Bhatt & Pancheva (2006) propose that *if*-clauses are fundamentally similar in involving operator movement, but differ in that *if*-clauses are interpreted as definite descriptions of possible worlds.

(30) if John arrives late

a. LF: Op$_w$ C^0 John arrives late in w
b. *i*w[John arrives late in w]
(Bhatt & Pancheva 2006)

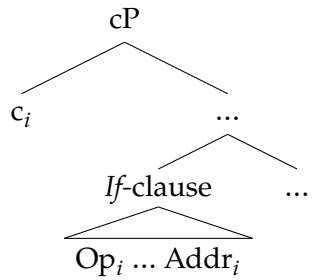
Some initial support for this approach comes from the fact that *if*-clauses in Basque, like English, are incompatible with speaker/hearer oriented adverbs, which Haegeman (2010) took to reflect intervention of the adverb in movement of a Speech Act operator.

(31) *Op if **frankly** he's __ unable to cope, we'll have to replace him.
(Adapted from Haegeman (2010))

(32) **Egoera* (***benetan***) *ezin badu* (***benetan***) *jasan, ordezkatu egin*
situation frankly can't IF.AUX frankly handle, replace do
beharko dugu.
need.FUT AUX
'If they can't handle the situation, we'll have to replace them.'

Let us assume, following Haegeman (2010) and Bhatt & Pancheva (2006), that *if*-clauses contain a World operator that moves to an *if*-clause-internal Speech-Act Phrase. Assume, further, that this is bound by the matrix little-c. We propose, in this light, that the innovation leading to the availability of allocutive marking in *if*- clauses in semi-conservative grammars, is licensing of the clitic-hosting Addr by the World operator, as in (33).

(33) ***If-clauses***



From the perspective of this analysis, the fact that, for some participants, restrictive relative clauses are also improved as hosts for embedded allocutive morphemes compared to complement declaratives and embedded questions might suggest that the operator implicated in restrictive relative clauses can license the allocutive clitic in a similar way.[9] We set aside this issue in the remaining discussion.

9 See Geis (1985) for an analysis of *if*-clauses as relatives.

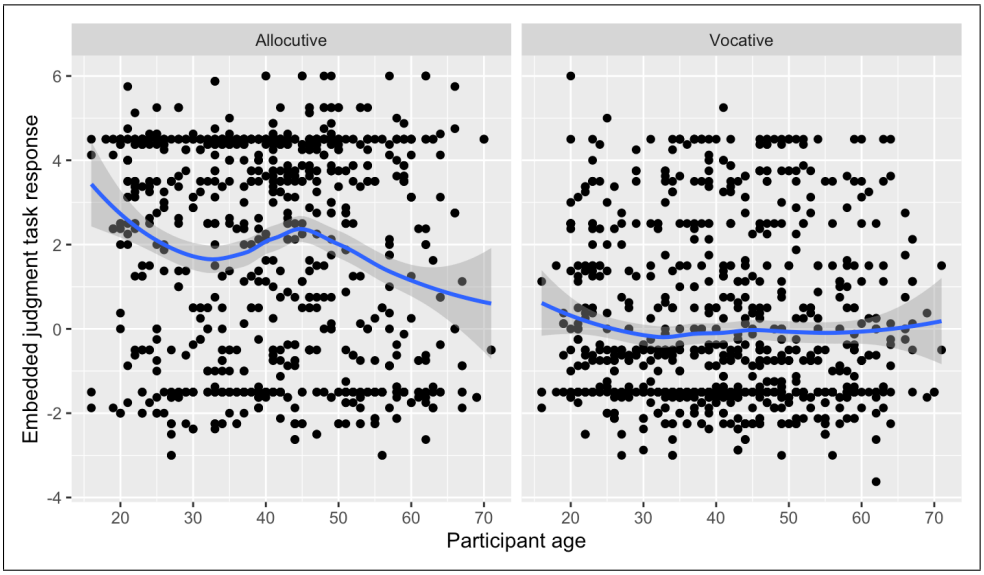


Figure 9 By-participant mean scores for embedded allocutives and vocatives by age.

6.2 *The non-correlation of allocutives & vocatives*

A second challenge posed by the results presented in Section 5 is to explain the fact that acceptance of embedded vocatives does not correlate across participants with acceptance of embedded allocutives or production of embedded allocutives in the translation task. In Section 3, we discussed some reasons for positing a partially unified syntactic approach to vocatives and allocutives and adopted Portner et al.'s (2019) proposal that vocatives and allocutives are in fact introduced in the same projection. But, this proposal, without further qualification, leads to the expectation that the same speakers who accept embedded vocatives will favor embedded allocutives in judgment and production tasks, which was not borne out by the data presented in Section 5. Instead, what we observe is an age effect for embedded allocutives but no such effect for embedded vocatives. We illustrate this in Figure 9, showing by-participant mean scores for embedded allocutives and vocatives by participant age.

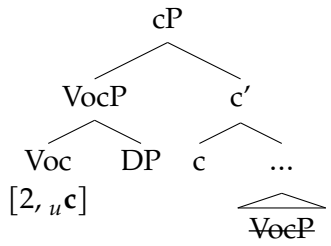
Beyond the fact observed here that vocatives and allocutives in embedded contexts are distributed differently across speakers, there are a few other ways in which they diverge. First, unlike allocutive clitics, vocative expres-

sions may be XPs. Vocatives are also distinguished by the fact that they may have the form of third person DPs but be interpreted as referring to the addressee (Hill 2007, Slocum 2016). Second, unlike allocutive clitics in Basque, which are obligatory in relevant sociolinguistic contexts, vocative expressions are optional. They necessarily co-occur with a call, or empathy request interpretation, which is never the case for allocutive clitics. Third and finally, vocative expressions in Basque, as in other varieties described, must be set off prosodically. As shown in (34), in the presence of foci, these distribute like topics—appearing either to the left of foci or finally. In (34), for example, the vocative *bihotza*, 'honey' is obligatorily separated from clausal material to the right by pause (#).

(34) (***Bihotza***) # *BIHAR etorriko nau-**k**-ela* (***bihotza***)
heart tomorrow come.FUT AUX-2SG.FAM.MASC-C heart
'Honey (I said that) I will come TOMORROW.'

We take these facts to reflect additional functional structure in vocative phrases not present in the allocutive clitic. Specifically, following Hill (2013, 2022), Slocum (2016) and Akkuş & Hill (2021), we assume that vocative phrases contain a VocP layer responsible for the addressee interpretation. Let us assume, moreover, that these constituents move to an utterance anchoring position restricted to root contexts (Moro 2003, Hill 2013, Portner et al. 2019).

(35)



Our proposal, then, is that contexts like (36) reflect not placement of the vocative expression in an embedded CP, but rather topicalization of embedded clause material to a position above the remnant vocative introduced in the root clause, as Slocum (2016) proposes for medial vocative expressions in English.[10]

(36) [*Ikusiko dugu ea astelehenean*]$_k$ *motel,* ***t***$_k$ *argazkiak bidaliko dituzten.*
see.FUT AUX if on.Monday dude photos send.FUT AUX
'Dude, we'll see if they'll send the photos on Monday.'

10 See Ortiz de Urbina (2002) on remnant topicalization in Basque more generally.

The consequence of this is that the change affecting allocutive morphemes – change in the licensing of Addr – does not affect the distribution of vocative phrases since these must move to the root cP, regardless. These assumptions, then, yield the desired result – shift in embedded allocutive marking without change in embedded vocatives.

7 Conclusion

The goal of this paper has been to probe an apparent change in progress toward loss of root-clause restrictions on Basque allocutive morphemes. We have done so using data from a recent survey of 421 self-described Basque allocutive users. Our results support the following three main findings.

i. Our results from both the translation task and the judgment task suggest an age effect on embedded allocutive forms. Younger participants were more likely than older participants to use embedded allocutive forms in translation task responses. They also rated embedded allocutive forms higher than older speakers in the judgment task. We take this age effect to reflect change in progress, there being no motivation that we are aware of for taking this contextual effect on clitic distributions to be age-graded behavior.

ii. Contrary to findings by Haddican & Etxeberria (2022) based on a smaller sample, our translation task results suggest that use of allocutive morphemes varies across embedding types with *if*-clauses and relative clauses more propitious environments for allocutive clitics than complement clauses and temporal adjuncts. We propose that these differences reflect different ways that the head introducing the allocutive clitic—a species of applicative morpheme—is licensed.

iii. Also contrary to findings by Haddican & Etxeberria (2022), our results failed to support the hypothesis that acceptance of embedded vocatives will correlate across speakers with acceptance and use of embedded allocutives. We take the absence of cross-speaker covariation to indicate partially different representations for the two sets of forms with vocatives subject to stricter root-constraints across varieties.

An important weakness of the data presented here is that the comparison of the effect of embedding type in the translation task data is based on only one or two items per type. The results reported here suggesting differences across embedding types should be replicated using a larger and more varied

set of items. (See Epelde, Haddican, Etxeberria, Etxepare, Albizu, Pineda & Rodriguez (in preparation).)

In addition, almost entirely overlooked in much of the recent formal work on Basque allocutivity are two further kinds of allocutive agreement found in Northern dialects known as *zuka* and *xuka*, based on second person formal clitics (Alberdi 1995). How and whether these forms are undergoing changes similar to those described for the familiar, gender marked morphemes described here, warrants further study. (See Elustondo & Epelde Zendoia (2023) and Epelde et al. (in preparation).)

Appendix

(37) ***Translation task items***

i. Maia ha dicho que vendrá. [*say* complement]
ii. Te he dicho que le daremos un abrazo. [*say* complement]
iii. Ramón ha olvidado que tiene que trabajar. [factive complement]
iv. Las casas que hemos visto son bonitas. [relative]
v. ¿Sabes si Aitor vendrá? [embedded *yes*/*no*-question]
vi. No se quién va a ganar. [embedded *wh*-question]
vii. Ander sonrió cuando me vió. [temporal clause]
viii. Cuando llegue Miren, empezaremos. [temporal clause]
ix. Me voy porque es tarde. [*because*-clause]
x. Si es muy caro, no lo compraremos. [*if*-clause]

(38) ***Translation task items, English***

i. Maia said she would come. [*say* complement]
ii. I told you that we would give him a hug. [*say* complement]
iii. Ramon forgot that he has to work. [factive complement]
iv. The houses we saw are pretty. [relative]
v. Do you know if Aitor will come? [embedded *yes*/*no*-question]
vi. I don't know who will win. [embedded *wh*-question]
vii. Ander smiled when he saw me. [temporal clause]
viii. When Miren arrives, we'll start. [temporal clause]
ix. I'm leaving because it's late. [*because*-clause]
x. If it's very expensive, we won't buy it. [*if*-clause]

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