Case marking in Basque

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0. Goal. The main goal of this paper is to propose an account of case marking in Basque. In particular, I will examine and evaluate, within a Relational Grammar (RG) framework (Perlmutter 1983; Perlmutter and Rosen 1984), the three hypotheses stated below*:

Hypothesis I (H-I)

A nominal heading a final Absolutive (ABS)-arc is marked with the absolutive case. A nominal heading a final Ergative(ERG)-arc is marked with the ergative case[1]. A nominal heading a final 3-arc is marked with the dative case.

Hypothesis II (H-II)

Case is determined by initial grammatical relations. A nominal heading an initial 1-arc is marked with the ergative case. A nominal heading an initial 2-arc is marked with the absolutive case[1]. A nominal heading an initial 3-arc is marked with the dative case.

Hypothesis III (H-III)

The case of a nominal is determined by the lowest ranking term arc it heads (assuming the relational hierarchy 1>2>3). A 1-arc determines ergative case, a 2-arc absolutive case and a 3-arc dative case.

H-I is a translation into RG of the traditional account of case in Basque (see, for instance, Campión 1884, or Manandise 1984). H-II is the RG equivalent of a proposal put forward by Levin (1983) and Ortiz de Urbina (1989). In this paper I will argue for H-III over H-I and H-II.

(*) This is a slightly revised version of the paper "Clause Union and Case marking in Basque", which was presented at the V Biennial Conference on Grammatical Relations and that appears in Dziwirek, Farrel and Mejías-Bikandi (1990). Thanks are due to Farrel Ackerman, Kathy Carey, Katarzyna Dziwirek, Patrick Farrell, Mary Hare and David Perlmutter for their comments on earlier drafts of this paper. I would also like to thank Jon Ortiz de Urbina for several comments on the analysis, and Aintzane Doiz-Bienzobas and Joseba Gabilondo for their help with Basque.

(1) I assume the following definitions:

An arc A is an ERG-arc in stratum s_i iff A is a 1-arc and, s_i is transitive.

A stratum s_i is transitive iff it contains a 1-arc and a 2 arc.

An arc A is an ABS-arc in stratum s_i iff A is a nuclear term-arc and A is not an ERG-arc in s_i.

[*ASJU*, 1991, XXV-2, 469-486]

The argumentation relies in part on the differential behavior of certain verbs in a causative construction in Basque that I consider to be an instance of CLAUSE UNION (Aissen and Perlmutter 1983; Fauconnier 1983; Gibson and Raposo, 1986). For this reason, I will introduce the relevant causative construction and argue for its final monoclausality in the first section. In the next four sections I will present four pieces of data. It will be shown that both H-I and H-II can account for some but not all of the data presented, whereas H-III makes the correct predictions in all cases. In section 6 I will present some apparently problematic data and show how it can be accounted for under H-III. Finally, in section 7 I will show that the structures independently argued for reveal a hitherto unnoticed generalization concerning auxiliary selection in Basque.

Tables I and II show the case and agreement markers I will assume in the paper:[2]

	ERGATIVE	ABSOLUTIVE	DATIVE
SG	-ak, -k	-a	-ari, -ri
PL	-ek	-ak	-ei

Table I: Case Marking

	ERGATIVE	ABSOLUTIVE	DATIVE
1SG	-t	n-	-it
2SG	-zu	z-	-izu
3SG	Ø	Ø	-io
1PL	-gu	g-	-igu
3PL	-te	-it-, -z-, -izk-,...	-ie

Table II: Verb Agreement.

The agreement information of the verb is normally carried by the auxiliary. There are two auxiliaries in Basque, *ukan* 'have' and *izan* 'be'. I will assume the following account of verb agreement:[3]

A- Verb Agreement

The auxiliary *izan* 'be' shows absolutive agreement with the nominal heading a final 1-arc. The auxiliary *ukan* 'have' shows ergative agreement with the nominal heading a final 1-arc. A nominal heading a final 2-arc determines absolutive agreement. A nominal heading a final 3-arc determines dative agreement.

(2) It is an issue whether the third person singular absolutive marker in Basque is Ø or *d-*. Following a suggestion made by Levin (1983: 308), I consider it to be Ø.

(3) The account in *A* is no more than a description of what has been traditionally assumed to be verb agreement in Basque. In particular, it does not address the issue of when one auxiliary or the other is used.

1. Sentence (2) below illustrates the relevant causative construction in Basque:[4]

(1) Ume-ak liburu-a irakurri du
child-sgE book-sgA read have-3sgE
'The child read the book'

(2) Emakume-ak ume-ari liburu-a irakurri erazi dio
woman-sgE child-sgD book-agA read make have-3sgA-3sgD-3sgE
'The woman made the child read the book'

In sentence (2) the subject *emakumeak* 'the woman' is marked with the ergative case, the causee *umeari* 'the child' appears in the dative case, and *liburuak* 'the books', the object of *irakurri* 'to read', appears in the absolutive case. With the causative verb *erazi*, the verb *irakurri* appears in its bare radical form. I will call the causative construction in (2) Clause Union (CD)-causative and I will argue that it is monoclausal in the final stratum. I will present two arguments: one based on verb agreement, the other on object-to-subject raising constructions[5].

1.1. **Argument based on verb agreement.** Sentences (3)-(5) show that in Basque a verb agrees with the nominals bearing a term GRAMMATICAL RELATION (GR) in its clause:

(3) Emakume-ak ume-ari liburu-a eman dio
woman-sgE child-sgD book-sgA give have-3sgA-3sgD-3sgE
'The woman gave the book to the child'

(4) Emakume-ak ume-ari liburu-ak eman dizkio
woman-sgE child-sgD book-plA give have-3plA-3sgD-3sgE
'The woman gave the books to the child'

(5) Emakume-ak ume-ei liburua eman die
woman-sgE child-plD book-sgA give have-3sgA-3plD-3sgE
'The woman gave the book to the children'

Sentences (6)-(9) show that the verb does not agree with a nominal that does not bear a term GR in its clause:

(6) Emakume-ak ume-ari [liburu-ak irakur-tzeko] esan dio
woman-sgE child-sgD book-plA read-PUR tell have-3sgD-3sgE
'The woman told the child to read the books'

(4) I will use the following abbreviations: 3sgA= third person singular absolutive, 3sgD= third person singular dative, 3sgE= third person singular ergative, NOM= nominalizer, PUR= purpose, HAB= habitual, ADJ= adjectivizer.

(5) There is another causative construction in Basque that can be argued to be biclausal at all levels of syntactic representation (Mejías-Bikandi, in preparation). This construction is exemplified in (i):

(i) Emakume-ak ume-ari liburu-a irakur-tzea egin erazi dio
woman-sgE child-sgD book-sgA read-NOM do make have-3sgA-3sgD-3sgE
"The woman made the child read the book"

In (i) the verb *egin* "do" is used, and the verb *irakurri* "to read" appears with the nominalizing suffix *-tzea*. It can be translated literally as "The woman made the child do the reading of the book". I will not consider this causative construction in this paper.

(7) *Emakume-ak ume-ari [liburu-ak irakur-tzeko] esan dizkio
woman-sgE child-sgD book-plA read-PUR tell have-3plA-3sgD-3sgE
'The woman told the child to read the books'
(8) Emakume-ak ume-ari [liburu-a nesk-ei ema-teko] esan dio
woman-sgE child-sgD book-sgA girl-plD give-PUR say have-3sgD-3sgE
'The woman told the child to give the book to the girls'
(9) *Emakume-ak ume-ari [liburu-a nesk-ei ema-teko] esan die
woman-sgE child-sgD book-sgA girl-plD give-PUR say have-3plD-3sgE
'The woman told the child to give the book to the girls'

In sentence (7), *liburuak* 'the books', the object of *irakurri* 'to read', is plural. However, the verb *esan* 'to tell' does not agree with an absolutive plural nominal. In sentence (9), *neskei* 'the girls', the indirect object of *eman* 'to give', is plural, but the verb *esan* does not agree with a dative plural nominal.

Consider now the causative sentence in (10)-(13):

(10) Emakume-ak ume-ei liburu-a irakurri erazi die
woman-sgE child-plD book-sgA read make have-3sgA-3sgD-3plE
'The woman made the children read the book'
(11) *Emakume-ak ume-ei liburu-a irakurri erazi dio
woman-sgE child-plD book-sgA read make have-3sgA-3sgD-3sgE
'The woman made the children read the book'
(12) Emakume-ak ume-ari liburu-ak irakurri erazi dizkio
woman-sgE child-sgD book-plA read make have-3plA-3sgD-3sgE
'The woman made the child read the books'
(13) *Emakume-ak ume-ari liburu-ak irakurri erazi dio
woman-sgE child-sgD book-plA read make have-3sgA-3sgD-3sgE
'The woman made the child read the books'

In (10), the main verb *erazi* 'to make' agrees with the plural dative nominal *umeei* 'the children'. In (12), the verb agrees with the absolutive plural nominal *liburuak* 'the books'. If the main verb does not agree with the dative plural nominal or the absolutive plural nominal, the sentence is ungrammatical, as (11) and (13) show respectively. We have seen in examples (3) through (5) that a verb agrees with the nominals that bear a term GR in its clause. It does not agree with nominals that bear a term GR in an embedded clause, as we saw in sentences (6) through (9). Sentences (10) through (13) show that in CU-causatives the main verb agrees with the ergative, the absolutive, and the dative nominals in the sentence. Therefore, I conclude that the nominals in sentences (10) and (12) bear a term GR in the main clause, or, in other words, that (10) and (12) are monoclausal.

1.2 Argument based on raising constructions. There is an object-raising contruction in Basque in which the notional object of the complement of a predicate such as *zail izan* 'be difficult' or *errez izan* 'be easy' appears as the subject of the matrix clause. Sentence (15) illustrates this construction:

(14) Patata bero-ak ja-ten zail da
potato hot-plA eat-HAB difficult be-3sgA
'To eat hot potatoes is difficult'
(15) Patata bero-ak zail-ak dira ja-ten
potato hot-plA difficult-plA be-3plA eat-HAB
'Hot potatoes are difficult to eat'

The object of *jan* 'to eat' in (14), *patata beroak* 'hot potatoes', appears as the subject of *zail izan* 'be difficult' in (15). The fact that *patata beroak* is the final subject of *zail izan* is shown by the agreement of the verb. In (15), the verb *izan* agrees with a plural subject. Given the account of verb agreement in *A, patata beroak* must be the final subject of the clause.

Sentence (17) shows that the object of a clause embedded in the complement of *zail izan* cannot appear as the subject of the matrix clause:

(16) [Patata bero-ak ja-teko] eska-tzen zail da
potato hot-plA eat-PUR ask-HAB difficult be-3sgA
*To ask (somebody) to eat hot potatoes is difficult'
(17) *Patata bero-ak zail-ak dira ja-teko eska-tzen
potato hot-plA difficult-plA be-3plA eat-PUR ask-HAB
'Hot potatoes are difficult to ask (somebody) to eat'

Patata beroak in (16) is the object of a clause embedded in the complement clause of the main predicate *zail izan*. Sentence (17) shows that this object cannot appear as the subject of the matrix clause.

Consider now the following sentences. In (18), the complement of *zail izan* is a CU-causative. The object of *irakurri* 'to read', *liburuak* 'the books', can appear as the subject of the matrix clause in (19):

(18) Ume-ari liburu-ak irakurri eraz-ten zail da
child-sgD book-plA read make-HAB difficult be-sgA
"It is difficult to make the child read books"
(19) Liburu-ak zail-ak dira ume-ari irakurri eraz-ten
book-plA difficult-plA be-3plA child-sgA read make-HAB
"Books are difficult to make the child read"

In sentences with the predicate *zail izan*, examples (14) and (15), the object of the complement clause can appear as the subject of the main predicate. The object of a clause embedded in a complement clause cannot appear as the subject of the main predicate, as sentences (16) and (17) show. When the complemente clause of *zail izan* is a CU-causative, as in sentence (18), the absolutive nominal can appear as the subject of the main predicate, as (19) shows. Consequently, the absolutive nominal must be the object of the complement clause; in other words, the complement clause in (18) must be monoclausal.

I have presented two arguments for considering the causative construction in (2) to be monoclausal. We can account for this monoclausality by assuming that (2) is an instance of Clause Union. I also assume the INHERITANCE PRINCIPLE (IP) (Faucon-

nier 1983; Gibson and Raposo 1986), wich claims that, universally, a nominal bears the same GR in the UNION STRATUM of the matrix clause that it bears in the final stratum of the embedded clause. The final 1 of the embedded clause escapes the effects of the IP, its GR in the union stratum being determined by language-particular rules.[6] I propose the following language-particular rule for Basque:

B- The nominal heading a 1-arc in the final stratum of the complement clause revalues to 3 in the union stratum.

This rule is motivated by sentences such as (20) and (21), where the causee, the nominal heading a final 1-arc in the complement clause, appears in the dative case, whether the complement clause is transitive or intransitive:

(20) Emakume-ak ume-ari liburu-a irakurri erazi dio
woman-sgE child-sgD book-sgA read make have-3sgA-3sgD-3sgE
"The woman made the child read the book"

(21) Aita-k ume-ari ibili erazi dio
father-sgE child-sgD walk make have-3sgD-3sgE
"The father made the child walk"

In summary, I have claimed that sentence (2) is an instance of Clause Union and that language-particular rule *B* regulates Clause Union in Basque. In the next three sections, I am going to present three sets of data that will help us evaluate the hypotheses H-I, H-II, and H-III.

2. First set of data. Consider sentence (22).

(22) Mutil-a neska-ri gustatu zaio
boy-sgA girl-sgD like be-3sgA-3sgD
"The girl likes the boy"

Given the verb agreement in (22), *mutila* "the child" is the final 1 and *neskari* "the girl" is the final 3. In the next section, I will first describe two phenomena with respect to which the final 3 of a sentence with the verb *gustatu* "to like", such as *neskari* (22), does not behave like nominals that head a final 3-arc in sentences with other predicates and I will offer an explanation for this apparent anomaly.

2.1.1. (23) exemplifies a construction that I will call a *teko*-sentence. In this sentence, the verb *esan* has a clausal complement. The dative nominal in the matrix clause controls an element of the embedded clause. Sentence (23) shows that the controllee can be the subject of the embedded clause:

(23) Miren-i [Kepari liburua ema-teko] esan diot
Mary-3sgD Peter-3sgD book-sgA give-PUR say have-3sgD-1sgE
"I told Mary to give the book to Peter"

(6) Although language variation is limited to the UNION PARAMETER (Gibson and Raposo 1986).

Sentences (24), (25), and (27) show that controllee cannot ordinarily be the nominal heading a final 2-arc or final 3-arc in the embedded clause:

(24) *Miren-i [Kepak jo-teko] esan diot
Mary-3sgD Peter-3sgE hit-PUR say have-3sgD-1sgE
"I told Mary that John should kick her"

(25) *Kepa-ri [Miren-ek liburu-a ema-teko] esan diot
Peter-3sgD Mary-3sgE book-3sgA give-PUR say have-3sgD-1sgE
"I told Peter that Mary should give a book to him"

(26) Mutil-a neska-ri jarraiki zaio
boy-sgA girl-sgD folluw be-3sgA-3sgD
"The boy follows the girl"

(27) *Aita-k neska-ri [mutil-a jarraiki-tzeko] esan dio
father-sgE girl-sgD boy-sgA follow-PUR tell have-3sgD-3sgE
"The father told the girl that the boy should follow her"

However, with the verb *gustatu* "to like", the nominal heading a final 3-arc in the embedded clause can be the controllee, as sentence (28) shows:

(28) Aita-k neska-ri [mutil-a gusta-tzeko] esan dio
father-sgE girl-sgD boy-sgA like-PUR tell have-3sgD-3sgE
"The father told the girl to like the boy"

The nominal *neskari* "the girl" heads a final 3-arc in both (22) and (26). However, when the sentence in (22) is the embedded clause in a *teko*-sentence, as in (28), the final 3 can be the controllee, whereas when the sentence in (26) is the embedded clause, as in (27), the final 3 cannot be the controllee. In this respect, *neskari* in (22) behaves like a nominal that heads a final 1-arc (cf. (23)).

In order to account for the difference between (28) on the one hand, and (25) and (27) on the other, I will make two assump?ions. First, I will assume the following language-particular condition:

C- Condition on possible controllees in teko*-sentences.*
The controllee in a *teko*-sentence must a WORKING 1.

A working 1 is defined as follows (Perlmutter 1984: 294):

A nominal is a *working 1* of clause *b* if and only if:
a. it heads a 1-arc with tail *b*, and
b. it heads a final term arc with tail *b*.

Second, I will assume that sentence in (22) is a instance of INVERSION (Harris 1984; Perlmutter 1984; Davies 1986; González 1988; Rosen and Wali 1989; Legendre 1989). In the inversion construction a nominal heads a 1-arc in one stratum and 3-arc in the next stratum. Under this assumption, the structure for (22) will be as shown in (29):

(29)

P	1	2
P	3	2
P	3	1
gustatu	neska	mutilla

The nominal *neskari* in (22) is a working 1, since it heads an initial 1-arc and a final term arc (i.e. a 3-arc). Hence, this nominal can be the controllee in a *teko* sentence. Given the inversion analysis of (22) and condition *C*, we can account for the behavior in *teko*-sentences of the final 3 in (22). Consequently, I conclude that the sentence (22) has the structure in (29).

2.1.2. Examples (30) and (31) illustrate two reflexive sentences in which the expression *bere burua* is used:

(30) *Jon-ek bere burua-a jo du*
John-sgE his head-sgA hit have-3sgA-3sgE
"John hit himself"

(31) *Jon-ek Kepa bere buru-ari aurkeztu dio*
John-sgE Kepa(sgA) his/her head-sgD introduce have-3sgA-3sgD-3sgE
"John$_i$ introduced Peter$_j$ to himself$_{i/j}$"

In sentence (30), *bere burua* is the final 2 of the clause, and its antecedent is the final 1. In sentence (31), *bere burua* is the final 3 of the clause, and its antecedent can be either the final 1 or the final 2. Consider now sentences (32)-(34):

(32) **Bere buru-ak Jon jo du*
his head-sgE John(sgA) hit have-3sgA-3sgE
"Himselft hit John"

(33) **Bere buru-ak Jon Kepari aurkeztu dio*
His/her head-sgE John(sgA) Peter-sgD introduce have-3sgA-3sgD-3sgE
"Himself$_{i/j}$ introduced John$_i$ to Kepa$_j$."

(34) *Jon-ek bere buru-a Kepar-ri aurkeztu dio*
John-sgE his/her head-sgA Peter-sgD introduce have-3sgA-3sgD-3sgE
"John$_i$ introduced himself$_{i/*j}$ to Peter$_j$

Sentences (32) and (33) show that if *bere burua* heads a final 1-arc, the antecedent cannot be nominal heading the final 2-arc or the final 3-arc. Sentence (34) shows that if *bere burua* heads a final 2-arc the antecedent cannot be the nominal heading a final 3-arc in the clause. Given these facts, we can state the following generalization:

D- Condition on possible antecedents of bere burua *(Preliminary)*

The antecedent of *bere burua* cannot head a final arc that is lowe in the hierarchy than the final arc headed by *bere burua.*

Now consider the following sentences:

(35) **Bere buru-a Kepa-ri jarraiki zaio*
his/her head-sgA Peter-sgD follow be-3sgA-3sgD
"Himself follows Peter"

(36) *Bere buru-a Kepa-ri gustatu zaio*
His/her head-sgA Peter-sgD follow be-3sgA-3sgD
"Peter likes himself"

Given verb agreement in (35), *bere burua* heads a final 1-arc, and *Kepa* heads a final 3-arc. Given condition *D*, we correctly predict that *Kepa* cannot be the antecedent of *bere burua* in this sentence. However, in sentence (36) we have a similar final stratum: *bere burua* heads a final 1-arc an *Kepa* heads a final 3-arc. But in this case *Kepa* can be the antecedent of *bere burua*. We can account for the contrast between (36) and (35), provided that we assume the structure in (29) for sentences with the verb *gustatu*, together with the following condition:[7]

D- Condition on possible antecedents of bere burua *(Revised)*

The antecedent of *bere burua* must be either a final $term_x$ or a working $term_x$ such that $term_x$ is not lower in the hierarchy than the final arc headed by the nominal *bere burua*.

In the case of (36), *Kepari* is a working 1, and a 1-arc is not lower in the hierarchy than the final arc headed by *bere burua* (which is itself a 1-arc). Then, condition *D* predicts that *Kepa* is a possible antecedent of *bere burua*, provided, again, that we assume the structure in (29).

2.2. I have argued that (29) is the structure of (22). *Neska* "the girl" is marked with the dative case in (22), and *mutila* "the boy" is marked with the absolutive case. We can now examine the predictions made by the different hypotheses, given the structure in (29).

a) H-I The nominal *mutila* heads a final ABS-arc. The prediction is that will be marked with the absolutive case. The nominal *neska* heads a final 3-arc. The prediction is that it will be marked with the dative case.

b) H-II. *Mutila* heads an initial 2-arc. The prediction is that it will be marked with the absolutive case. *Neska* heads an initial 1-arc. The prediction is that it will be marked with the ergative case.

c) H-III. The lowest ranking term arc *mutila* heads is a 2-arc. The prediction is that it will be marked with the absolutive case. The lowest ranking term arc *neska* heads is a 3-arc. The prediction is that will be marked with the dative case.

We see that both H-I and H-III can account for the case of the nominals in (22). However, H-II makes a prediction that is incorrect; it predicts that the nominal *neska* "the girl" will be ergative, since it is an initial subject. Sentences such as (22) therefore constitute evidence against H-II.

3. **Second set of data.** Sentence (37) is a passive construction with an overt agent (Perlmutter an Postal 1983 discuss a similar sentence):[8]

(37) Etxe-ak Kepa-k egiñak dira
house-plA Peter-sgE made be-3plA
"The houses are made by Peter"

(7) This condition does not intend to provide a complete account of the distribution of *bere burua* in Basque. The purpose of *D* is to show how you can account for the contrast between (35) and (36) given certain assumptions. Presumably, other factors will be involved in a complete account of the distribution of *bere burua*. In particular, it is not clear whether the rule should make reference to the final or initial arc headed by *bere burua*.

(8) It has been pointed out to me (Jon Ortiz de Urbina, p. c.) that the analysis of (37) as a passive is controversial. Here I will assume Perlmutter and Postal's analysis without to justify it.

In (37), the auxiliary *izan* "be" shows absolutive agreement with the nominal *etxeak* "the houses". Thus, *etxeak* "the houses" must be the final 1. The verb does not agree with the nominal *Kepak* "Peter"; consequently, *Kepak* must not head a final term arc. These agreement facts can be accounted for if we assume the structure in (38) for sentence (37):

(38)	P	1	2
	P	Chô	1
	egin	Kepa	etxea

In (38) *Kepa* does not head a final term arc and then it does not determine verb agreement. Since the nominal *etxea* heads a final 1-arc, the auxiliary *izan* "be" shows absolutive agreement with it.

3.1. I have claimed that (38) is the structure of (37). In (37), *etxeak* is marked with absolutive case and *Kepak* with ergative case. Consider the different predictions each hypothesis makes.

a) H-I. The nominal *etxeak* heads a final ABS-arc. The prediction is that its case will be absolutive. The nominal *Kepak* heads a final Chô-arc. H-I does not make any prediction with respect to the case of this nominal. In particular, it does not predict that its case is ergative, since it does not head a final ERG-arc.

b) H-II. The nominal *etxeak* heads an initial 2-arc. The prediction is that it will be marked with the absolutive case. *Kepak* heads an initial 1-arc. The prediction is that it will be marked with the ergative case.

c) H-III. The lowest ranking term arc *etxeak* heads is a 2-arc. The prediction is that it will be marked with the absolutive case. The lowest ranking term arc *Kepak* heads is a 1-arc. The prediction is that it will be marked with the ergative case.

Sentence (37) constitutes evidence against H-I, since it shows that this hypothesis fails to predict all the cases in which a nominal is marked with the ergative case.

4. **Third set of data.** Consider the following sentences:

(39) Gizon-ak asko tardatu du
man-sgE a lot take-a-long-time have-3sgE
"The man took a long time (It took a long time for the man to come)"

(40) Izarr-ak dirdiratu du
star-sgE shine have-3sgE
"The star shined"

(41) Gizon-a etorri da
man-sgA come be-3sgA
"The man came"

(42) Irakasle-a zorabi da
teacher-sgA faint be-3sgA
"The teacher fainted"

In the four setences above, the verb is intransitive. When the predicate of the clause is *tardatu* "to take a long time" or *dirdiratu* "to shine" (examples (39) and (40)), the subject is marked with the ergative case and the auxiliary *ukan* "have" shows ergative agreement. When the predicate is *etorri* "to come" or *zorabi* "to faint",

as in (41) and (42), the subject is in the absolutive case and the auxiliary *izan* "be" shows absolutive agreement. In the next section I will show that these two types of verbs, *tardatu* and *dirdiratu* on the one hand, and *etorri* and *zorabi* on the other, also behave differently with respect to other phenomena, such as participial adjective formation and causativization.

4.1. Participial adjectives can be constructed on the initial 2 of initially transitive sentences, as (43) shows:

(43) galdu-tako liburu-a
lose-ADJ book-sgA
"the lost book"

A participial adjective cannot be constructed on the initial subject of an initially transitive verb:

(44) galdu-tako ume-a
lose-ADJ child-sgA
'the lost child'
*"the child that lost (something)"

Example (45) shows that a participial adjective can also be constructed on the nominal of the verb *etorri*:

(45) etorri-tako gizon-a
come-ADJ man-sgA
"the man that came"

However, it is not possible to construct a participial adjective on the nominal of the verbs *tardatu* or *dirdiratu*:

(46) *tardatu-tako gizon-a
take-a-long-time-ADJ man-sgA
"the man that took a long time"

(47) *dirdiratu-tako izarr-a
shine-ADJ star-sgA
"the star that shines"

It has been shown that with respect to participial adjective formation, the final subject of the verb *etorri* behaves like the object of a transitive verb, whereas the final subject of the verb *tardatu* behaves like the subject of a transitive verb. We can account for this pattern if we assume that *etorri* and *zorabi* license an initial UNACCUSATIVE stratum (Perlmutter 1978; Perlmutter and Postal 1984; Perlmutter 1989), such that *gizona* "the man" in (45) and *liburu*? "the book" in (43) are initial 2s. *Tardatu* and *dirdiratu*, on the other hand, license an initial UNERGATIVE stratum, such that *gizona* in (46), for example, heads an initial 1-arc. The generalization then is:[9]

E-A participial adjective can be constructed on an initial 2.[10]

(9) The argument in this section and this generalization are similar to the ones presented for Italian in Perlmutter (1989).

(10) A problem for this analysis and for this argument was pointed out to me by Jon Ortiz de Urbina. A construction such as (i) seems to be possible in Basque, where a participial adjective is constructed on the subject of a transitive verb:

(i) *liburu galdu-tako ume-a*
book lose-ADJ child-sgA
"The child that lost the book"

The conclusion that *tardatu* licenses an initial unergative stratum, whereas *etorri* licenses an initial unaccusative stratum, is corroborated by the behavior of these predicates in CU-causatives. Consider the following sentences:

(48) Kepa-k gizon-ari tardatu erazi dio
Peter-sgE man-sgD take-a-long-time make have-3sgD-3sgE
"Peter made the man take a long time (to come)"

(49) *Kepa-k gizon-a tardatu erazi du
Peter-sgE man-sgA take-a-long-time make have-3sgA-3sgE
"Peter made the man take along time (to come)"

(50) Aita-k ume-a etorri erazi du
father-sgE child-sgA come make have-3sgA-3sgE
"The father made the child come"

(51) Aita-k ume-ari etorri erazi dio
father-sgE child-sgD come make have-3sgD-3sgE
"The father made the child come"

When the predicate of the complement clause is *etorri*, the causee can appear either as a final 2, (50), or a final 3, (51). On the other hand, when the predicate of the complement clause is the verb *tardatu*, the causee can appear only as a final 3. We can account for this difference under the analysis proposed above. In (48) and (49) *gizona* "the man" heads an initial 1-arc in the complement clause. Given principle *B* we would expect that it would appear as a 3 in the union stratum. *Gizona* in (50) and (51) heads an initial 2-arc. Given the IP, we can account for the fact that it can appear as a 2 in the union stratum. Those cases in which it appears as a 3 can be accounted for two ways: either is 2-1 advancement in the complement clause and then revaluation to 3, or the complement clause is monostratal and there is 2-3 retreat in the matrix clause. I won't argue for either of these accounts here. The relevant point is that the contrast between (49) and (50) can easily be accounted for if we assume that *etorri* is an unaccusative predicate, whereas *tardatu* is unergative.

I have argued above that *gizonak* in (39) heads an initial 1-arc, whereas *gizona* in (41) heads an initial 2-arc. Both nominals must head a final 1-arc, given verb agreement. The structures for (39) an (41) are therefore those shown in (52) and (53) respectively:[11]

In (i), as opposed to (44), the initial object of the verb, in this case *liburu*, is explicitly mentioned. This seems to be a counterexample to *E*. I do not know how to explain the grammaticality of (i). However, whatever the proper analysis of (i) is, the contrast remains between (43) and (45) on the one hand and (44), (46) and (47) on the other.

(11) Another verb that patterns with *tardatu* and *dirdiratu* with respect to case marking is *irakin* "to boil":

(i) Ur-ak irakin du
water-sgE boil have-3sgE
"The water boiled"

However, since a participial adjective seems to be possible on the subject of this verb, it constitutes an apparent counterexample either to principle *D* or to H-III:

(ii) Irakin-dako ur-a
boil-ADJ water-sgA
"The boiled water"

(52)	P	1	(53)	P	2
	tardatu	gizona		P	1
				etorri	gizona

4.2. The case of *gizonak* in (39) is ergative, and the case of *gizona* is absolutive. I will examine now the predictions that the different hypotheses make, given the structures in (52) and (53).

a) H-I. *Gizona* heads a final ABS-arc in both (52) and (53). The prediction is that it will be marked absolutive in both examples.

b) H-II. The nominal *gizona* heads an initial 1-arc in (52). The prediction is that it will be marked with the ergative case. In (53) it heads an initial 2-arc. The prediction is that it will be marked with the absolutive case.

c) H-III. The lowest ranking term arc the nominal *gizona* heads in (52) is a 1-arc. The prediction is that it will be marked with the ergative case. The lowest ranking term arc *gizona* heads in (53) is a 2-arc. Under H-III we predict that its case will be absolutive.

Sentence (39) thus presents evidence againts H-I, since this hypothesis wrongly predicts that the case of *gizona* in this sentence will be absolutive.[12]

5. Fourth set of data. Consider sentence (54):

(54) *Jon liburu-ak irakurria da*
John(sgA) book-plA read be-sgA
"John read the books"

Sentence (54) is a thematic paraphrase of sentence (55) below:

(55) *Jon-ek liburu-ak irakurri ditu*
John-sgE book-plA read have-3plA-3sgE
"John read the books"

In both (54) and (55) *Jon* is the agent and *liburu* the patient/theme. I will assume the Little Alignment Hypothesis (Rosen 1984) which claims that if the nominals of two sentences within a particular language have similar θ-roles then these nominal must have the same initial GRs. It is uncontroversial to assume that these initial GRs are 1 for *Jon* and 2 for *liburu*. In the next section I will argue that even if (54) and (55) have similar initial strata they have different final strata.

5.1.1. Given the agreement of the verb in (55), the nominals *Jon* and *liburu* must be the final 1 and the final 2 of the clause respectively. On the other hand, in (54)

Notice, thoug, that *irakin* can also be used as a transitive verb:

(iii) Kepa-k ur-a irakin du
Peter-sgE water-sgA boil-3sgA-3sgE
"Peter made the water boil"

(v) *Kepa-k ur-a irakin erazi du
Peter-sgE water-sgA boil make have-3sgA-3sgD-3sgE
"Peter made the water boil"

Thus, verbs such as *irakin* "to boil" do not constitute counterevidence either against *D* or against H-III, provided we recognize the existence of two verbs *irakin*, a transitive one and an intransitive one.

(12) Sentence (39) would also constitute evidence against a possible alternative hypothesis; namely: An initial ABS-arc is marked in the absolutive case, an initial ERG-arc is marked with the ergative case.

the verb does not agree with the nominal *liburu*. Assuming principle *A* of verb agreement, *liburu* in (54) cannot be a final term-arc. On the other hand, *Jon* in (54) must be the final 1, since the verb *izan* agrees with a singular absolutive subject. To summarize, assuming principle *A*, the nominal *Jon* in (54) must be a final 1, but the nominal *liburu* in (54) cannot be a final 2 (or a final term).

5.1.2. As we saw in section 3, in a passive construction a nominal heading a 2-arc can head a 1-arc in a subsequent stratum. Thus, we can have a passive counterpart of sentence (55), where the initial object *liburu* appears as the final subject:

(56) *Jon-ek liburu-ak irakurriak dira*
John-sgE book-plA read be-3plA
"the books were read by John"

However, we cannot have passive counterpart of (54):

(57) **Jon liburu-ak irakurriak dira*
John(sgA) book-plA read be-3plA
"The books were read by John"

Since *liburuak* in (54) cannot appear as the final subject in a passive construction, we must conclude that this nominal does not head a final 2-arc in (54).

I have shown that *Jon* in (54) is an initial and final 1 and that *liburu* in (54) is an initial 2 but a final non-term. These facts can be accounted for if we assume the structure in (58) for sentence (54):

(58)	P	1	2
	P	2	Chô
	P	1	Chô
	irakurri	Jon	liburu

(58) shows an ANTIPASSIVE construction (Postal 1977; Davies 1984). The initial 1 demotes to 2 and the 2 advances to in a subsequent stratum. The demotion to 2 initial 1 causes the initial 2 to demote to Chô.[13] In this structure, *Jon* is the initial an final 1, and *liburua* is the initial 2, but the final Chô.

5.2. I argued that (58) is the structure correspondig to sentence (54). In (54) the nominals *Jon* and *liburu* are both marked with the absolutive case. We can consider now the predictions each hypothesis makes.

a) H-I. The nominal *Jon* heads a final ABS-arc. The prediction is that it will be marked with the absolutive case. The nominal *liburu* does not head either an ERG-arc or an ABS-arc. Consequently, H-I does not predict the case of this nominal.

b) H-II. The nominal *Jon* heads an initial 1-arc. The prediction is that it will be marked with the ergative case. The nominal *liburu* heads an initial 2-arc. The prediction is that it will be marked with the absolutive case.

c) H-III. The lowest ranking term-arc that the nominal *Jon* heads is a 2-arc. The prediction is that it will be marked with the absolutive case. The lowest ranking

(13) Given The Oblique Law (Perlmutter and Postal 1983), the only possibility for *liburu* is to be a final Chô.

term-arc the nominal *liburu* heads is a 2-arc. The prediction is that this nominal will also be marked in the absolutive case.

We see that H-I correctly predicts the case of *Jon* in (54), but it does not predict the case of *liburu*. H-II predicts that the case of *liburu* will be absolutive, but incorrectly predicts that the case of *Jon* will be ergative. On the other hand, H-III correctly predicts the absolutive case of both *Jon* and *liburu* in (54).

In the above sections I have presented three arguments against H-I and two arguments against H-II. Thus, I consider H-III to be preferable to H-I and H-II. In the next section, I will present some data that appears to be problematic and show how it can be accounted for under H-III.

6. Consider a sentence such as (59):

(59) Ume-a ibili da
child-sgA walk be-3sgA
"The child walked"

In (59) *umea* "the child" is marked with the absolutive case and the auxiliary *izan* "to be" shows absolutive agreement. Thus, *ibili* "to walk" seems to pattern with predicates like *etorri* "to come". I claimed in the previous section that *etorri* licenses an initial unaccusative stratum, so that the final subject is an initial object. In this way, the absolutive case of the final subject in (41) is accounted for by *H-III*. However, I will argue in this section that *umea* in (59), in spite of being marked with the absolutive case, heads an initial 1-arc. The argument is based on participial adjectives.

The example in (60) shows that a participial adjective cannot be constructed on the nominal argument of the verb *ibili* "walk":

(60) *ibili-tako ume-a
walk-ADJ child-sgA
"the child that walked"

If we assume principle *D*, we must conclude that the nominal argument of the verb *ibili* does not head an initial 2-arc, and, thus, it must head an initial 1-arc.

Again, this conclusion is corroborated by the behavior of this verb in CU-causatives. We saw that when the initial stratum of the complement clause was unaccusative, the causee could appear either as a 2 or as 3, but when the initial stratum of the complement clause was unergative, the causee could appear only as a 3. Sentences (61) and (62) show that the causee in a CU-causative with the verb *ibili* must appear as a 3:

(61) *Aita-k ume-a ibili erazi du
father-sgE child-sgA walk make have-3sgA-3sgE
"The father made the child walk"

(62) Aita-k ume-ari ibili erazi dio
father-sgE child-sgD walk make have-3sgD-3sgE
"The father made the child walk"

The facts regarding participial adjectives argue that *umea* "the child" in (59) is an initial 1. The problem then is to account for the absolutive case of *umea* in (59) without expanding the class of possible natural language clause structures. We can do so by assuming the following structure for (59):

(63)	P	1
	P	2
	P	1
	ibili	umea

(63) shows, again, an antipassive construction. In this structure the lowest ranking term arc the nominal *umea* heads is a 2-arc. The prediction under H-III is that the case of this nominal in (59) will be absolutive, as desired. Given this structure, we can also account for the fact that a participial adjective cannot be constructed on *umea* in (60), since this nominal heads an initial 1-arc. I would like to make two brief comments on the data presented in this section. First, notice that even if I am not presenting these data as an argument for H-III (given that I have no independent evidence for the structure in (63), it not clear how the absolutive case of the nominal *umea* in (59) could be accounted for under *H-II*. Since it was argued that this nominal heads an initial 1-arc, *H-II* predicts that its case will be ergative. Second, antipassive constructions have been attested only in transitive clauses. However, Davies (1984) makes the prediction that given his characterization of antipassive, such constructions should appear in intransitive clauses too. The data and the analysis presented here show that his prediction is correct.

7. **Auxiliary Selection.** In the preceding sections I have argued that H-III expresses the correct generalization concerning case marking in Basque. In this section, I will show that the structures that were argued for above, and that allow the generalization about case marking to be captured, also make it possible to formulate a rule that accounts for auxiliary selection in Basque.

Consider the relational networks of sentences that appear with the auxiliary *izan* "be" that have been discussed in the paper:

(29)	P	1	2
	P	3	2
	P	3	1
	gustatu	neska	mutilla

(53)	P	2
	P	1
	etorri	gizona

(58)	P	1	2
	P	2	Chô
	P	1	Chô
	irakurri	Jon	liburu

(38)	P	1	2
	P	Chô	1
	egin	Kepa	etxea

(63)	P	1
	P	2
	P	1
	ibili	umea

The structure in (29) corresponds to sentence (22), the structure in (38) to sentence (37), the structure (53) to sentence (41), the structure in (58) to sentence (54) and the structure in (63) to sentence (59). In all cases, the nominal that heads a final 1-arc also heads a 2-arc. The generalization that emerges is:[14]

F- Auxiliary Selection

If there is a nominal that heads a 1-arc with tail *b* and a 2-arc with tail *b* then the auxiliary in clause *b* is *izan* 'be'. Otherwise, the auxiliary is *ukan* 'have'.

8. Conclusion. I have examined three different hypotheses concerning case marking in Basque. I have shown that H-I is inadequate because i) in some cases a nominal that does not head a final ERG-arc is marked with the ergative case (so H-I does not predict all the instances in which a nominal will have ergative case), ii) in other examples a nominal that heads a final ABS-arc is marked not in the absolutive case, as predicted, but in the ergative case. I have also shown that H-II is inadequate because there are instances in which a nominal that heads an initial 1-arc is not marked with the ergative case. Finally, I have shown that under H-III we can account straightforwardly for all the examples that were problematic for the competing hypotheses. Consequently, I conclude that H-III is superior to both H-I and H-II.

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(14) This generalization is very similar to the one proposed for Italian in Perlmutter (1989).

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