

# Stress and Islands in Northern Bizkaian Basque

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University of Delaware, 21 October 2005

## 1. Introduction

Stress/accent in Northern Bizkaian Basque (NBB):

- **Accented** words have stress (pitch accent) in all environments.
- **Unaccented** words only have stress iff they have **sentence stress/accent (SS)**.

(Azkue 1923, Hualde 1991, 1999, Hualde et al. 1993, 1994, G. Etxepare 1997, 2003)

### (1) Sentence stress in NBB

- Sentence stress is within **the phrase immediately preceding the main verb**.
- Within that phrase, stress is on the final/penult syllable of the phrase.

(Final or penult depending on dialect/lexical item. In Ondarra, mostly penult.)

⇒ Since Basque is SOVaux, SS is typically on the object:

- Jonak lagune ikusi ban.  
Jon.ERG friend.ABS.SC seen had  
'Jon saw his friend.'

Problems:

- Typically, there is no **unique** phrase immediately preceding the main verb:

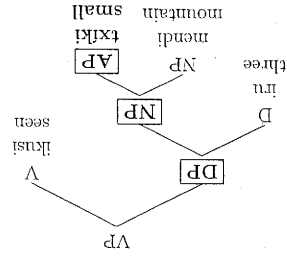
- Jonak iru mendi txiki ikusi ban.  
Jon.ERG three mountain small.ABS seen had  
'Jon saw three small mountains.'

Is it DP, NP, or AP?

Does it matter?

Whichever phrase we pick, SS is on *txiki* 'small'.

⇒ It does, once we choose our examples carefully:



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Stress and Islands

## 2. Asymmetry in adjunct vs. complement clauses:

(Hualde et al. 1994, A. Etxepare 2002)

When an embedded clause precedes the matrix verb:

- With adjuncts, SS on phrase preceding **matrix** verb:

- [CP Jon ikusi nebanelako ] asartatu sin.  
[CP Jon.ABS seen had.CAUS ] got angry were  
'They got angry because I had seen Jon.'

- With complements, SS on phrase preceding **embedded** verb:

- [CP DP Jon ] ikusi nebanela ] esatu zen.  
[CP DP Jon.ABS ] seen had.COMP ] said had  
'They said that I had seen Jon.'

Why?

(6)

*The internal structure of islands is invisible to phrase stress rules.*

As we'll see:

- this explains the asymmetry in problem 2, and

- it also gives an answer to problem 1.

## Outline

- sentence stress in NBB
- the asymmetry in complement/adjunct clauses (problem 2)
- which phrase? (problem 1)
- stress, islands, and focus

## 2. The Sentence Stress Rule in NBB

Sentence stress is derived in two steps:

### (7) Sentence stress in NBB

- Sentence stress is within the phrase immediately preceding the main verb.
- Within that phrase, stress is on the final/penult syllable of the phrase.

### Formalism: Labeled tree notation

(Lieberman 1975, Lieberman and Prince 1977)

- (8) For any overt node  $\alpha$ , one of the overt daughters of  $\alpha$  is labeled *strong* (s), and the other daughters of  $\alpha$ , if any, are labeled *weak* (w).

In a language where the *leftmost* node is strong (more prominent):

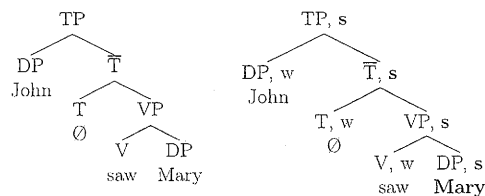
- (9)
- 

We need two more ingredients:

- The root node is labeled s.
- Nuclear stress is on the lowest node dominated only by s nodes.

e.g. nuclear stress in English: the rightmost daughter in every constituent is strong:

- (12) John saw Mary.



Sentence Stress Rule in NBB: (Arregi 2002, based on Cinque 1993, Zubizarreta 1998)

- (13) In a constituent  $\alpha$ , the head of  $\alpha$  is strong iff it branches.

- (14)
- 

In SOVAux order, SS on object:

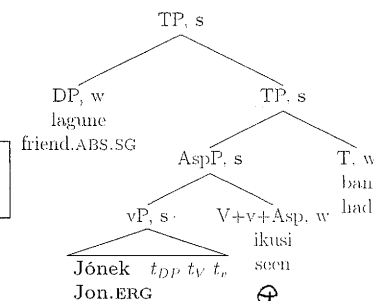
- (15) Jonék lagúne ikusi ban.  
Jon.ERG friend.ABS.SG seen had  
'Jon saw his friend.'

- (16)
- 
- Word-structure irrelevant.
- SS is within object.
  - SS is on penult syllable in Obj.

In OSVAux order, SS on subject:

- (17) Lagune Jónék ikusi ban.  
friend.ABS.SG Jon.ERG seen had  
'Jon saw his friend.'

- Only subject is overt in vP.
- SS is within subject.
- SS is on penult syllable in Shj.



Crucial mah2-3  
out side VO  
Not crucial  
Plans, first matter is sub or obj  
more extrinsic

### 3.2. Complement Clauses

In adjuncts, SS on phrase preceding matrix verb:

- (18) [CP Jon ikusi nebanelako] [CP Jon ABS seen had.CAUS ] got angry were  
 'They got angry because I had seen Jon.'

In complements, SS on phrase preceding embedded verb:

- (19) [CP [DP *Jón*] [*íkristi neðanella*] ] [CP [DP *Jon.ABS*] [*seen had.COMP*] ] said had  
'They said that I had seen Jon.'

Proposal:

- (20) *The internal structure of islands is invisible to phrase stress rules.*

### 3.1. Adjunct Clauses

Adjunct clauses are islands to movement:

- (21) \*Sein asaratu sin [CP t ilkuṣi nebanelako]  
 who.ABS got.angry were [CP t seen had.CAUS]  
 'Who did they get angry because I saw?'

⇒ The internal structure of adjunct clauses is invisible to phrase stress rules.

- [illegible]

1. The internal structure of CP is irrelevant.
2. SS is within CP.
3. SS is on the penultimate syllable of CP.

5. It doesn't change hydro

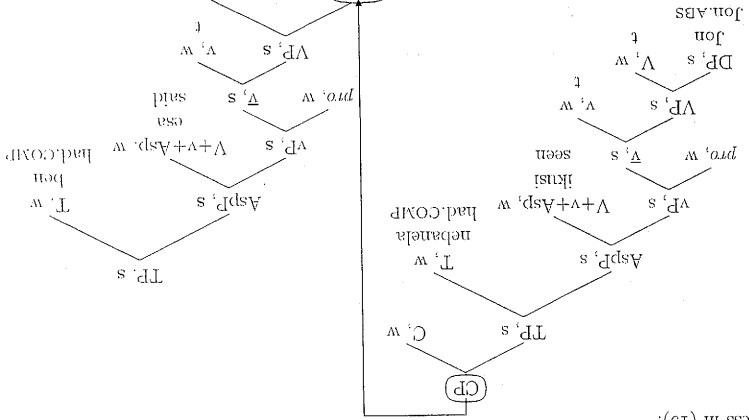
### 3.2. Complement Clauses

Complement clauses are not islands to movement:

- (23) Sein esa ben [cp t ikusti nebadula]  
 who.ABS said had [cp t seen had.COMP]  
 'Who did they say I saw?'

⇒ The internal structure of complement clauses is visible to phrase stress rules.

Stress in (19) is



un 3 like  
focus & power  
much use

- 6
- on the
- Jon, abs
- DP, s
- t
- V, w
- t
- VP, s
- t
- V, w
- pro, w
- t
- V, s
- seen
- illust
- VP, s
- V+V+Asp, w
- had, comp
- nebanda
- T, w
- Asp, s
- TP, s
- C, w
- CP, s
- t
- V, w
1. The internal structure of CP is relevant.
2. SS is within embedded object.
3. SS is on the penultimate syllable of Obj.
- Handwritten notes:
- Handwritten: 1. The internal structure of CP is relevant.
- Handwritten: 2. SS is within embedded object.
- Handwritten: 3. SS is on the penultimate syllable of Obj.
- Handwritten: Jon, abs
- Handwritten: DP, s
- Handwritten: t
- Handwritten: V, w
- Handwritten: t
- Handwritten: VP, s
- Handwritten: t
- Handwritten: V, w
- Handwritten: pro, w
- Handwritten: t
- Handwritten: V, s
- Handwritten: seen
- Handwritten: illust
- Handwritten: VP, s
- Handwritten: V+V+Asp, w
- Handwritten: had, comp
- Handwritten: nebanda
- Handwritten: T, w
- Handwritten: Asp, s
- Handwritten: TP, s
- Handwritten: C, w
- Handwritten: CP, s
- Handwritten: t
- Handwritten: V, w

1. The internal structure of CP is relevant.
2. SS is within embedded object.
3. SS is on the penultimate syllable of (Obj).

21 June 4 July 1899

#### 4. Back to Problem 1: Which Phrase?

Typically, there is no *unique* phrase immediately preceding the main verb:

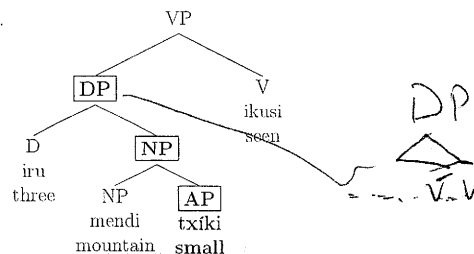
- (24) Jonek iru mendi txiki ikusi ban.  
Jon.ERG three mountain small.ABS seen had  
'Jon saw three small mountains.'

Is it DP, NP, or AP?

Does it matter?

Whichever phrase we pick, SS is on *txiki* 'small'.

⇒ It does, once we choose our examples carefully.



- (25) The internal structure of islands is invisible to phrase stress rules.

DPs are islands in Basque, regardless of syntactic position and definiteness:

- (26) Subject

\* Señen ikusi ban [DP t lagun batek ] Jon  
who.GEN seen had [DP t friend a.ERG ] Jon.ABS  
'Who did a friend of see Jon?'

- (27) Object

\* Señen ikusi sendun [DP t argaski bat ]  
who.GEN seen had [DP t picture a.ABS ]  
'Who did you see a picture of?'

⇒ The internal structure of DPs is invisible to phrase stress rules.

⇒ The relevant phrase in (24) is DP:

- (28) Jonek [DP iru mendi txiki ] ikusi ban.  
Jon.ERG [DP three mountain small ] seen had  
'Jon saw three small mountains.'

1. The internal structure of DP is irrelevant.
2. SS is within DP.
3. SS is on penult syllable in DP.

Evidence that DP is the relevant phrase:

- In dialects where SS is penult in the phrase, stress is final in monosyllabic phrases:

- (29) Olatzek [ Jón ] ikusi ban.  
Olatz.ERG [ Jon ] seen had  
'Olatz saw Jon.'

- A sentence like (24), except the AP is monosyllabic:

- (30) Jonek [DP iru [NP mendi [AP sar ]]] ikusi ban.  
Jon.ERG [DP three [NP mountain [AP old ]]] seen had  
'Jon saw three old mountains.'

Stress is on final syllable in noun.

⇒ Stress is on penult in NP/DP, not AP. (Otherwise, stress would be on *sar*.)

⇒ The relevant phrase is not AP.

- A sentence like (24), except the NP is monosyllabic:

- (31) Jonek [DP iru [NP jai ] ] ikusi ban.  
Jon.ERG [DP three [NP party ] ] seen had  
'Jon saw three parties.'

Stress is on final syllable in determiner.

⇒ Stress is on penult in DP, not NP. (Otherwise, stress would be on *jai*.)

⇒ The relevant phrase is DP, not NP.

Summary

The internal structure of islands is invisible to phrase stress rules.

- Explains the asymmetry in adjunct/complement clauses.
- Clarifies what *the phrase* means in the initial generalization.
- Explains stress patterns in DPs ending in monosyllabic words.

[ word word word ]

## 5. Stress, Islands, and Focus

There is a well-known relation between sentence stress and focus in English and other languages:

### (32) Focus-Prosody Principle

The focused constituent must contain sentence stress.

(Jackendoff 1972, Selkirk 1984 and many others)

If context requires focus on subject, it must have sentence stress:

(33) A. Who saw Mary?

B. John<sub>F</sub> saw Mary.

B'. \*John<sub>F</sub> saw Mary.

If context requires focus on object, it must have sentence stress:

(34) A. Who did John see?

B. \*John saw Mary<sub>F</sub>.

B'. John saw Mary<sub>F</sub>.

NBB is the same, except variation in stress placement is achieved by altering word order:

(35) A. Txakurre sein ikusi ban?

dog:ABS.SG who.ERG seen had  
'Who saw the dog?'

B. \*Jonck<sub>F</sub> txakurre ikusi ban.

B'. Txakurre Jonck<sub>F</sub> ikusi ban.

(36) A. Jonck se ikusi ban?

Jon.ERG what.ABS seen had  
'What did Jon see?'

B. Jonck txakurre<sub>F</sub> ikusi ban.

Jon.ERG dog.ABS.SG seen had  
'Jon saw the dog.'

B'. \*Txakurre<sub>F</sub> Jonck ikusi ban.

In English, DP-internal material behaves the same way:

(37) a. John saw Bill's<sub>F</sub> sister; not Mary's (sister).

b. \*John saw Bill's<sub>F</sub> sister; not Mary's (sister).

(38) a. \*John saw Bill's sister<sub>F</sub>; not Bill's/his brother.

b. John saw Bill's sister<sub>F</sub>; not Bill's/his brother.

In NBB, DP-internal material does not behave the same way:

(39) a. Jonen ama<sub>F</sub> ikusi neban, es Jonen atxe.

Jon.GEN mother.ABS.SG seen had, not Jon.GEN father.ABS.SG  
'I saw Jon's mother; not Jon's father.'

b. \*Jonen amak<sub>F</sub> ikusi neban, es Jonen atxe.

Jonen<sub>F</sub> ama ikusi neban, es nire ama.

Jon.GEN mother.ABS.SG seen had, not my mother.  
'I saw Jon's mother; not my mother.'

(40)

b. \*Jonen<sub>F</sub> ama ikusi neban, es nire ama.

The focused constituent does not always contain sentence stress.

(41) Focus cannot place stress on unstressable elements.

In NBB, DPs are islands, so only the penultimate syllable in the DP in (39-40) can be stressed:

not even focus can't change that.

If we look in the right places, English behaves the same way: -ed is not stressable; not

even focus can change that:

(42) A. Is John dating Mary?

focus tense

B. \*Well, he dated her, but he doesn't any more.

(cf. He will date her.)

B'. Well, he dated her, but he doesn't any more.

(cf. \*He will date her.)

What distinguishes NBB and English is not the focus-prosody interface, but

their stress systems.

(No stress in islands)

redefine islands in BPS



look at island domain, not internal structure

## 6. Conclusion

- Like many other languages, NBB has a sentence stress rule.
- What distinguishes it from other languages is that it can't apply inside islands.
- This accounts for differences in stress placement in complement and adjunct clauses.
- The focus-prosody interface in NBB is more similar to other languages than it would seem at first.

## 7. Appendix: Formalism

Arregi 2002: Sentence Stress Rule is formalized with Idsardi's (1992) metrical grid.

(See also Liberman and Prince 1977, Prince 1983, Halle and Vergnaud 1987.)

### (43) Sentence Stress Rule (SSR)

- a. Insert a right parenthesis to the right of the rightmost asterisk (=RRR).

- b. In the following configuration:

\* \* line  $N$   
 $[\gamma\alpha \quad \beta]$

The asterisk corresponding to the head of  $\gamma$  projects to line  $N + 1$  iff the head of  $\gamma$  is branching.

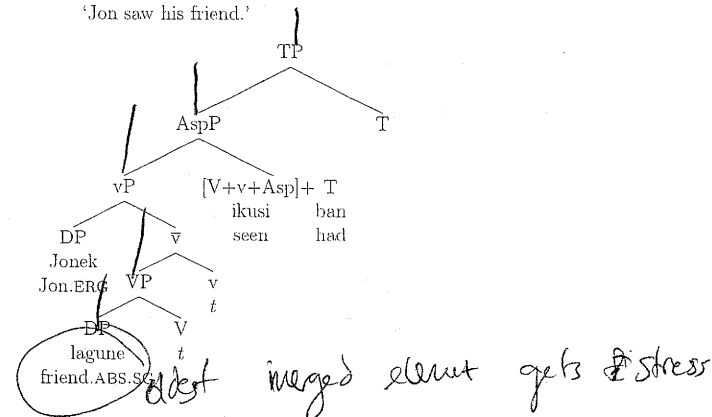
We also need the SEC (Halle and Vergnaud 1987, Arregi 2002):

### (44) Stress Equalization Convention (SEC)

When two or more constituents are conjoined into a single higher level constituent, the highest grid columns of the constituents are equalized by adding grid elements to the lesser columns.

Arregi 2002: typically, main verb and Aux form a word in the phonology:

- (45) Jonek lagúne ikusi ban.  
 Jon.ERG friend.ABS.SG seen had  
 'Jon saw his friend.'



- Other rules assign stress within each island (and word). They project up to line 2.
- We apply SEC and SSR cyclically to every constituent containing more than one word.
- For clarity, asterisks inserted by SEC are enclosed in curly brackets.

### (46)

			*		line 3
	*	*		*	line 2
[ <sub>VP</sub> Jonek lagune ]		<u>SSR</u>		[ <sub>VP</sub> Jonek lagune ]	
<hr/>					
		*			line 3
	*	*	)	*	line 2
[ <sub>AspP</sub> [ Jonek lagune ] [ ikusi ban ] ]					<u>SEC</u> →
		*		{*}	line 3
	*	*	)	*	line 2
[ <sub>AspP</sub> [ Jonek lagune ] [ ikusi ban ] ]					<u>SSR</u>
		*			line 4
		*		{*}	line 3
	*	*	)	*	line 2
[ <sub>AspP</sub> [ Jonek lagune ] [ ikusi ban ] ]					

# References

Arregi, Karlos. 2002. Focus on Basque movements. Doctoral Dissertation, Massachusetts Institute of Technology.  
 Azkue, Resurrección Maria. 1923. *Morfología vasca*. Bilbao: Euskaltzaindia.  
 Cinque, Guglielmo. 1993. A null theory of phrase and compound stress. *Linguistic Inquiry* 24:239-297.

Elordieta, Arantzazu. 2002. On the (im)possibility of prosodic focus marking in embedded contexts in Northern Bizkaian Basque. In *Erromani boneta: Festschrift for Rudolf P. G. de Ryck*, ed. Xabier Arriagotia, Patxi Goenaga, and Joseba Andoni Lakarra, 153-177. Bilbao: Euskal Herriko Unibertsitatea.

Elordieta, Gorka. 1997. Accent, tone and intonation in Lekaitio Basque. In *Issues in the phonology and morphology of the major Iberian languages*, ed. Fernando Martínez-Gil and Alfonso Morales-Front, 3-78. Washington, DC: Georgetown University Press.  
 Elordieta, Gorka. 2003. Intonation. In *A grammar of Basque*, ed. José Ignacio Hualde and Jon Ortiz de Urbina, 72-112. Berlin: Mouton de Gruyter.  
 Halle, Morris, and Jean-Roger Vergnaud. 1987. *An essay on stress*. Cambridge, MA: MIT Press.

Hualde, José Ignacio. 1991. *Basque phonology*. New York: Routledge.  
 Hualde, José Ignacio. 1999. Basque accentuation. In *Word prosodic systems in the languages of Europe*, ed. Harry van der Hulst, 947-993. Mouton de Gruyter.  
 Hualde, José Ignacio, Gorka Elordieta, and Arantzazu Elordieta. 1993. Focalización y prosodia en vascuence vizcaino. *Actas del Seminario de Filología Vasca* 17:731-749.  
 Hualde, José Ignacio, Gorka Elordieta, and Arantzazu Elordieta. 1994. *The Basque dialect of Lekaitio*. Bilbao: Euskal Herriko Unibertsitatea.

Isard, William J. 1992. The computation of stress. Doctoral Dissertation, Massachusetts Institute of Technology.  
 Jackendoff, Ray S. 1972. *Semantic interpretation in Generative Grammar*. Cambridge, MA: MIT Press.  
 Liberman, Mark Y. 1975. The international system of English. Doctoral Dissertation, Massachusetts Institute of Technology.  
 Liberman, Mark Y., and Allan S. Prince. 1977. On stress and linguistic rhythm. *Linguistic Inquiry* 8:249-336.

Prince, Alan S. 1983. Relating to the grid. *Linguistic Inquiry* 14:19-100.  
 Selkirk, Elisabeth. 1984. *Phonology and syntax: The relation between sound and structure*. Cambridge, MA: MIT Press.  
 Zubizarreta, Maria Luisa. 1998. *Prosody, focus, and word order*. Cambridge, Mass.: MIT Press.

Mount from a prosodic phase?  
 only from a focused phase  
 prevocal is focus position or?  
 so these guys can be harder in  
 focus account

Hingana same restriction since in prevocal only we respect these islands

how does stress work what are islands  
 English can have stress in islands

Other dialects have stress in islands  
 need a good theory of what are islands

\* have a phrase that has no mount but is not island sensitive.

Can't focus non merged nodes

can focus early

it is that phase that is normal  
 stress is the most context sensitive  
 focus/phase a anaphoric w/

later Quechua can move with in island to spec CP the can move whole island

different focus & got up and mount is this

stress assignment w/in root phase

Islands are put together early, or late?

Other phase process (phases, glaucan, secondary stress that operate and respect these islands