

STRESS AND ISLANDS IN NORTHERN BIZKAIAN BASQUE

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1. Introduction*

One of the most striking features of the accentual system of Northern Bizkaian Basque (NBB) is the fact that most words are not stressed at the word level:¹

- (1) [Jonen aman lagúne] etorri re.
[Jon.GEN mother.GEN.SG friend] come.PRF AUX.3SG.PR
'Jon's mother's friend came.'

In this example from the variety spoken in the town of Ondarroa (OB),² only the final word in the bracketed DP contains a stressed syllable. Stress on any other word in this DP is not possible under any circumstances. This is due to the fact that the relevant domain for stress assignment is phrasal (in the example above, this domain is the bracketed DP). Within this domain, stress is penultimate. Thus, the ungrammaticality of placing stress on, say, the first syllable of the first word in this phrase is parallel to the ungrammaticality of placing stress on the first syllable in the English word *American*.

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¹ In this paper, I use the following abbreviations in the examples: 1 (first person), 2 (second person), 3 (third person), ABS (absolute), ALL (allative), AUX (auxiliary), CAUS (causative case), COM (comitative), COMP (complementizer), ERG (ergative), FUT (future), GEN (genitive), IMP (imperfective), IN (inessive), LGEN (locative genitive), PL (plural), PR (present), PRF (perfective), PST (past), SG (singular). Furthermore, the spelling conventions used in the examples differ somewhat from Standard Basque orthography, in order to reflect the phonology of NBB more closely. For instance, since NBB does not make a distinction between predorso-alveolar and apico-alveolar alveolar voiceless fricatives (*z* and *s*, respectively, in Standard Basque), I use apical *s* where, etymologically, we would expect either *z* or *s*. Similarly, only the affricate predorso-alveolar *tz* is used (as opposed to both apico-alveolar *ts* and predorso-alveolar *tz*). Two other relevant conventions are: (i) the *h* of Standard Basque is 'silent' in NBB, and it is not used here; (ii) phonemic /d/ is spelled as *r* in some contexts, to reflect the fact that it is realized as a flap in these contexts.

² Unless otherwise noted, all examples are from OB, and can be taken as representative of all varieties of NBB.

In this paper, I examine the conditions under which a given phrase can be a domain for the assignment of phrase level stress in NBB. As shown in more detail below, not all phrases are domains for stress assignment. For instance, in (1), the bracketed DP contains several phrases (e.g. *Jonen* ‘Jon’s’ and *Jonen aman* ‘Jon’s mother’s’ are both genitive DPs), but none of them are domains for stress assignment (otherwise, we would expect both *Jonen* and *aman* to contain a stressed syllable). The main claim put forth in this paper is that only a *syntactic island* that is not embedded under another island can be a domain for stress assignment at the phrase level. In (1), the bracketed DP and all the phrases dominated by it are islands to movement (see section 2 for justification). Furthermore, this DP is not dominated by any other island. Thus, only this DP is a domain for phrase level stress. This accounts for the fact that only the last word in the bracketed DP can contain a stressed syllable.

This paper is organized as follows. Section 2 makes a brief introduction to the stress system of NBB, and examines the relation between islandhood and phrase level stress. This section introduces the Phrase Stress Rule (PSR), whose domain of application is any island that is not embedded under other islands. In section 3, I discuss the interaction between phrase level stress and the Nuclear Stress Rule (NSR), which determines prosodic prominence at the sentence level. The discussion in this section rests on the hypothesis that the PSR and the NSR are separate rules in NBB. Detailed justification for this assumption is given section 4. More specifically, I argue, *contra* A. Elordieta (2002) that the data cannot be accounted for if we try to do away with the PSR as a rule that is separate from the NSR. In section 5, I examine further the relation between phrase stress and islandhood, by discussing certain apparent and not so apparent problems to the proposal. Section 6 ends the paper by offering some suggestions as to why the assignment of phrase level stress is constrained in this way in NBB.

2. Stress Domains

In this section, I argue that stress assignment at the phrase level follows this generalization (where ‘PSR’ stands for ‘Phrase Stress Rule’, and ‘unembedded island’ refers to an island that is not dominated by another island):

(2) *Stress Domains and Islandhood*

A constituent is a domain for the PSR iff it is an unembedded island.

As shown below, this generalization places strong limitations on the placement of stress in NBB. However, before discussing the data that justify this generalization, we must first understand some basic features of the NBB accentual system. Stress in NBB is realized as a H*+L pitch accent; the stressed syllable is assigned a high tone and the syllable following it a low tone, as exemplified in the following (see, among others, Hualde 1994, Hualde, Elordieta and Elordieta 1994, G. Elordieta 1997, 2003, and Hualde 2003):

- (3) a. iru alába three daughter.ABS ‘three daughters’
 | |
 H L
- b. etxeá jun de. home.ALL.SG go.PRF AUX.3SG.PR ‘He’s gone home.’
 ^
 HL
- c. Bilbon da. Bilbao.IN be.3SG.PR ‘It’s in Bilbao.’
 | |
 H L
- d. Bilboa nu. Bilbao.ALL go.1SG.PR ‘I’m going to Bilbao.’
 | |
 H L

As shown in (3b), if there is no syllable following the stressed one in the relevant stress domain, both the high and the low tones are linked to the stressed vowel.³

An important question about stress assignment in NBB is how to define the stress domain. There are basically two different domains: the word and the phrase. A word which is *accented* constitutes a stress domain (e.g. (3c-d)). On the other hand, most words in NBB are *unaccented*, and are not assigned stress at the word level (e.g. (3a-b); see below). Whether a word is accented or not depends on the morphemes it is composed of.⁴ For instance, all words containing the root *Bilbo* are accented, and all words containing the plural definite morpheme *-a* are also accented (e.g. *gixón-a-n* ‘man-PL-GEN’). Within this domain, stress is on the penultimate syllable.⁵ In the remainder of this paper, I will not have much to say about word level stress, since its domain is relatively well defined.⁶

On the other hand, defining the phrasal domain for stress assignment is a much more difficult task. Consider the following examples:

³ The relation between stress placement and tone assignment is slightly more complicated. The HL tone sequence is realized as a fall in pitch starting on the stressed syllable. I have also omitted facts about tone assignment to syllables preceding the stressed one, since they are not relevant for our purposes. See references cited above (3) for details.

⁴ Note that I am using the terms ‘accented’ and ‘unaccented’ in a non-standard way. Accented words are always stressed at the word level (so that they always contain a drop in pitch due to a pitch accent), and unaccented words are not (and thus do not contain a pitch accent due to word level stress). This does not mean that unaccented words never contain a pitch accent; as illustrated in detail below, they can contain a pitch accent due to phrase level stress rules.

⁵ This is true of OB and of the variety spoken in the neighboring town of Lekeitio. In other varieties, placement of word level stress is more complicated. As shown in Hualde (1994), in OB, stress is on the penult except in words where the final syllable has no onset, where stress is on the antepenult, as in (3d) (see also Arregi 2002: §2, for some theoretically interesting consequences of this fact).

⁶ This, of course, does not mean that it is always immediately obvious what the relevant domain is in specific examples. For instance, in compound tenses, the participle and auxiliary, which are morphologically separate words, behave as a single word with respect to stress assignment and other phonological processes (see Hualde, Elordieta and Elordieta 1994: 42, 57-59, G. Elordieta 1997b and Arregi 2002: §4.6.2 for discussion).

- (4) a. **Gixóna** etorri re.
 man.ABS.SG come.PRF AUX.3SG.PR
 ‘The man has come.’
- b. [**Gixonan** áma] etorri re.
 [man.GEN.SG mother.ABS.SG] come.PRF AUX.3SG.PR
 ‘The man’s mother has come.’
- (5) a. **Gixónak** etorri ris.
 man.ABS.PL come.PRF AUX.3PL.PR
 ‘The men have come.’
- b. [**Gixónan** áma] etorri re.
 [man.GEN.PL mother.ABS.SG] come.PRF AUX.3SG.PR
 ‘The men’s mother has come.’

Singular *gixona* and *gixonan* are unaccented, and plural *gixónak* and *gixónan* are accented. As shown in (5), accented words are always stressed. This is not the case of unaccented words. As illustrated in (4), an unaccented word can contain stress only in certain syntactic positions. More specifically, it can be stressed as the result of stress assignment at the phrase level, which is computed according to the following rule:⁷

(6) *Phrase Stress Rule (PSR)*

The penultimate syllable of a phrase is stressed.^{8,9}

In (4a), the unaccented word *gixona* is (trivially) at the end of the subject DP, and its penultimate syllable is stressed. On the other hand, in (4b), *gixonan* is not at the end of the subject DP, and it has no stress. In (7) below, *gixóna* is at the end of a DP containing other words, and, as expected, it is stressed on its penultimate syllable:

- (7) [Isablen gixóna] etorri re.
 [Isabel.GEN man.ABS.SG] come.PRF AUX.3SG.PR
 ‘Isabel’s husband has come.’

If a non-final word in a DP is stressed, the result is ungrammatical:

- (8) * [Isabélen gixóna] etorri re.
 [Isabel.GEN man.ABS.SG] come.PRF AUX.3SG.PR
 ‘Isabel’s husband has come.’

⁷ The present paper is about phrase level stress, not word level stress, and all examples below contain only unaccented words (unless explicitly noted), in order to avoid irrelevant complications that word level stress might cause. Thus, whenever it is stated in the text that a word cannot bear stress in some position, it must be understood as referring to unaccented words.

⁸ In most dialects, phrasal stress is typically on the final syllable. In OB, it is on the penultimate, unless the final syllable is onsetless, in which case stress is final (see Arregi 2002). Stress is also final whenever the final vowel in the phrase is deleted (see Hualde 1991, 1995, 1996). These differences among dialects are not relevant for our purposes, and, for ease of exposition, I will stick to the generalization given in (6).

⁹ Not all phrases that are assigned stress by the PSR actually surface with a stressed syllable. See footnote 22.

As expected, the last word in a phrase is not necessarily stressed by the PSR. Since this rule assigns stress to the penultimate syllable in the phrase, the last word has to be polysyllabic in order to contain stress. This can be exemplified with the determiner *bat* ‘a, one’:¹⁰

- (9) a. [Etxé bat] erosi rau.
 [house a.ABS] buy.PRF AUX.3SG.PR
 ‘He’s bought a house.’
- b. [Etxe báten] eon da.
 [house a.IN] be.PRF AUX.1SG.PR
 ‘He’s been in a house.’

Both absolutive *bat* and inessive *báten* are unaccented. When they are in final position in the phrase, bisyllabic *báten* is stressed, and monosyllabic *bat* is not. This shows conclusively that the relevant domain for stress assignment in this case is the phrase, not the word.

There is, however, something missing from the description given above. Consider again examples (4b) and (9b), whose bracketed phrases have the following structure:¹¹

- (10) a.
- ```

 DP
 / \
 DP D'
 gixonan NP D
 man.GEN.SG áma Ø
 mother ABS.SG

```
- b.
- ```

      DP
     /  \
    NP   D
  etxe  báten
  house a.IN
  
```

As noted above, the words in bold are unaccented, and they are not at the end of the root DP, so they are not assigned stress by the PSR. However, they are both at the end of a phrase: *gixonan* is the only word in the embedded DP, and *etxe* is the only word in the NP. DP and NP are phrases, so we might expect, contrary to fact, that these words should be stressed by the PSR. For some reason, only the root DP can count as a stress domain for this rule. The following examples illustrate this point further:

- (11) a. [_{DP} Etxe [_{AP} andi] báten] eon da.
 [_{DP} house [_{AP} big] a.IN] be.PRF aux.3SG.PR
 ‘He’s been in a big house.’
- b. [[[[Olatzen] gixonan] aman] lagúne] aia san.
 [[[[Olatz.GEN] man.GEN.SG] mother.GEN.SG] friend.ABS.SG] arrive.PRF AUX.3SG.PST
 ‘Olatz’s husband’s mother’s friend arrived.’

¹⁰ This point cannot be illustrated in dialects where phrasal stress is on the final syllable (see footnote 8). Trivially, stress is always on the final word in the phrase in these dialects.

¹¹ I assume that D in Basque is specified for number and case. Another possibility would be that case heads a projection (KP or PP) above DP. This is not relevant for the discussion at hand. Similarly, the implicit adoption of Abney’s (1986) DP hypothesis is irrelevant to the main points discussed in this paper.

In (11a), the adjective *andi* is at the end of an AP, but it does not contain a stressed vowel. On the other hand, *baten* is at the end of the DP containing the AP, and it does have a stressed vowel. In (11b), only the outermost bracketed DP counts as a stress domain, and its last word *lagune* contains a stressed vowel. All the other words in this DP are at the end of genitive DPs which do not count as stress domains for the PSR. If stress is placed on the adjective in (11a) or on any nonfinal noun in the subject in (11b), the result is ungrammatical.

From the discussion above, it is clear that what defines a stress domain for the PSR does not depend (purely) on category: some DPs are stress domains, and others are not. Something similar occurs with other categories, as illustrated in the following examples of predicate APs and NPs:¹²

- (12) a. [_{AP} Gárbi] aia san.
 [_{AP} clean] arrive.PRF aux.3SG.PST
 ‘It arrived clean.’
- b. [_{AP} Garbi démas] eoten da.
 [_{AP} clean very] be.IMP AUX.3SG.PR
 ‘It’s usually very clean.’
- (13) a. Jon [_{NP} alkáte] ipiñi rabe.
 Jon.ABS [_{NP} mayor] put.PRF AUX.3PL.PR
 ‘They have elected Jon mayor.’
- b. Jon [_{NP}[_{DP} erriko] alkáte] ipiñi rabe.
 Jon.ABS [_{NP}[_{DP} town.LGEN.SG] mayor] put.PRF AUX.3PL.PR
 ‘They have elected Jon the town’s mayor.’

The NPs and APs in previous examples are embedded in DPs and are not stress domains. On the other hand, the ones in (12-13) are not embedded in DPs and are stress domains, as witnessed by the fact that the penultimate syllable in them is stressed. Furthermore, the genitive DP *erriko* in (13b) is embedded in an NP and it cannot be stressed. Thus, it seems that embeddedness is important in determining the stress domain for the PSR. In fact, all the examples examined so far follow this generalization:

- (14) A phrase of category DP, AP, or NP is a domain for the PSR iff it is not embedded in a phrase of category DP, AP, or NP.

This fact about the categories DP, NP and AP can in fact be correlated with another property of these categories. To the extent that it can be determined, they are all islands to movement. As illustrated in the following *wh*-questions, DPs in Basque are islands not only in subject and adjunct position (15a-b), but also in object position (15c):¹³

¹² See Artiagoitia (1997) for discussion of nonverbal predicates in Basque.

¹³ As expected, the questions in (15) (and (16) below) are possible if they do not involve extraction of the *wh*-word from the containing DP. For instance, (i) is a grammatical counterpart of (15c) that does not involve extraction of the *wh*-word from the object DP:

(i) [_{DP} Señen argaski bat] ikusi sendun?
 [_{DP} who.GEN.SG picture a.ABS] see.PRF AUX.2SG.PST
 ‘Whose picture did you see?’

- (15) a. * Señen₁ ikusi ban [_{DP} t₁ lagun batek] Jon?
 who.GEN.SG₁ see.PRF AUX.3SG.PST [_{DP} t₁ friend a.ERG] Jon.ABS
 ‘Who did a friend of see Jon?’
- b. * Señen₁ jun siñan [_{DP} t₁ lagun bateas] Bilbao?
 who.GEN.SG₁ go.PRF AUX.2SG.PST [_{DP} t₁ friend a.COM] Bilbao.ALL
 ‘Who did you go to Bilbao with a friend of?’
- c. * Señen₁ ikusi sendun [_{DP} t₁ argaski bat]?
 who.GEN.SG₁ see.PRF AUX.2SG.PST [_{DP} t₁ picture a.ABS]
 ‘Who did you see a picture of?’

Furthermore, predicate NPs are also islands to movement:¹⁴

- (16) * [Se erriko]₁ ipiñi rabe [_{NP} t₁ alkate] Jon?
 [what town.LGEN.SG]₁ put.PRF aux.3PL.PR [_{NP} t₁ mayor] Jon.ABS?
 ‘What town did they elect Jon the mayor of?’

Thus, we can replace the generalization about stress domains in (14) with the following, where *unembedded island* is to be understood as referring to an island not dominated by another island:

(17) *Stress Domains and Islandhood (SDI)*

A constituent is a domain for the PSR iff it is an unembedded island.

As we saw above, DP, AP and NP are islands, and they are possible stress domains. Furthermore, they are stress domains only when they are not embedded in another DP, AP or NP, i.e. when they are not embedded in another island.

The SDI generalization, if correct, raises two important questions. First, it is not clear why islandhood should be involved in the definition of stress domains in NBB. A partial answer to this question will be provided in section 6. In the remainder of this section, I address a more immediate concern. SDI makes clear predictions beyond the ones examined above. In particular, it predicts that *all* types of islands, not just the categories discussed above, are possible stress domains for

¹⁴ I could not find any relevant examples showing that predicate APs are islands in Basque. In particular, there are no predicate APs that clearly contain some complement or modifier that could in principle be extracted. Consider, for instance:

- (i) Jon beran semías psik da.
 Jon.ABS he.GEN son.COM.SG happy.ABS.SG be.3SG.PR
 ‘Jon is happy with his son.’

It is not clear whether *beran semias* ‘with his son’ is a complement or modifier of the adjective *psik* ‘happy’. For instance, the adjective alone can be replaced with the wh-word *selanik* ‘how’:

- (ii) Selanik de Jon beran semias?
 how be.3SG.PR Jon.ABS he.GEN.SG son.COM.SG
 ‘How does Jon feel about his son?’

Under the natural assumption that the wh-word can only replace a phrase, this example suggests that the adjective by itself forms an AP to the exclusion of the alleged modifier/complement. All potential examples of APs with modifiers or complements that I could find were of this type.

the PSR. As I argue immediately below, this prediction is borne out, which lends strong support to SDI.

Consider first adjunct clauses. As is well known, they are strong islands to movement (see (18)). In this respect, they are in sharp contrast with complement clauses (19):

- (18) a. *Sein₁ asarratu san Jon [_{Adj} t₁ ikusi nebanelako]?
 who.ABS.SG₁ get.angry.PRF AUX.3SG.PST Jon.ABS [_{Adj} t₁ see.PRF AUX.1.SG.PST.CAUS]
 ‘Who did Jon get angry because I saw?’
- b. *Sein₁ asarratu san Jon [_{Adj} t₁ ikusi nebanin]?
 who.ABS.SG₁ get.angry.PRF AUX.3SG.PST Jon.ABS [_{Adj} t₁ see.PRF AUX.1.SG.PST.IN]
 ‘Who did Jon get angry when I saw?’
- (19) Sein₁ esa ban Jonek [_{CP} t₁ ikusi nebanela]?
 who.ABS.SG₁ say.PRF AUX.3SG.PST Jon.ERG [_{CP} t₁ see.PRF AUX.1SG.PST.COMP]
 ‘Who did Jon say I saw?’

The SDI thus predicts that a phrase contained in an adjunct clause is not a stress domain for the PSR. This prediction is borne out:

- (20) a. [_{Adj}[_{DP} Lagun bat] ikusi nebaneláko] asarratu san.
 [_{Adj}[_{DP} friend a.ABS] see.PRF AUX.1SG.PST.CAUS] get.angry.PRF AUX.3SG.PST
 ‘He got angry because I saw a friend.’
- b. [_{Adj}[_{DP} Lagun bat] ikusi nebanín] asarratu san.
 [_{Adj}[_{DP} friend a.ABS] see.PRF AUX.1SG.PST.IN] get.angry.PRF AUX.3SG.PST
 ‘He got angry when I saw a friend.’

The adjunct clauses in these examples are stress domains, and, accordingly, their last word is stressed.¹⁵ Furthermore, the bracketed DP is an island, but it is also embedded under the adjunct island, so it is not a stress domain. Accordingly, it does not contain a stressed syllable. If the DP in either sentence is pronounced with stress on any of its syllables, the result is ungrammatical. On the other hand, since complement clauses are not islands, a DP appearing inside such a clause is a stress domain for the PSR, as illustrated in the following example:

- (21) [_{CP}[_{DP} Lagún bat] ikusi nebanela] esa ban.
 [_{CP}[_{DP} friend a.ABS] see.PRF AUX.1SG.PST] say.PRF AUX.3SG.PST
 ‘He said that I had seen a friend.’

Something similar occurs with relative clauses. Since they are islands (see (22)), a phrase inside a relative clause is not a stress domain, as illustrated in (23):

¹⁵ Note that stress is on the final, not penultimate, syllable of the auxiliary in the adjunct in (20b). This is because the final vowel in the auxiliary is deleted (see footnote 8). In all embedded clauses (including (20-21)), the participle has final stress, even though this is not indicated in the examples in the text. This is a fact about all participles in embedded clauses and has nothing to do with phrasal stress (see Hualde, Elordieta and Elordieta 1994: 60).

- (22) *[Se kato]₁ esautze su [DP_{RC} t₁ adopta ban] gixona]?
 [which cat.ABS]₁ know.IMP AUX.2SG.PR [DP_{RC} t₁ adopt.PRF AUX.3SG.PST] man.ABS.SG]
 ‘Which cat do you know the man who bought?’
- (23) [DP_{RC}[DP Ori katu] adopta ban] gixóna] esautzen dot.
 [DP_{RC}[DP that.ABS cat.ABS.SG] adopt.PRF AUX.3SG.PST] man.ABS.SG] know.IMP AUX.1SG.PR
 ‘I know the man who adopted that cat.’

In this case, the DP containing the relative clause is an island, so it is a stress domain for the PSR and its last word *gixona* is stressed. On the other hand, the DP inside the relative clause is an island, but not an unembedded island, so it is not a stress domain, and it cannot contain a stressed syllable.

There are certain types of islands that have not been mentioned so far: coordinate structures, subject clauses, factive clauses, and embedded questions. These do not behave precisely as expected, and are the topic of section 5 below.

To summarize so far, we have established that unembedded islands are the relevant domains for the PSR. In the next section, I discuss the interaction between the PSR and another stress rule that operates at the phrase level: the Nuclear Stress Rule. As will be shown below, the domains in which these two rules apply are disjoint.

3. The Nuclear Stress Rule

As expected, a sentence in NBB can contain more than one stressed syllable:

- (24) a. Jónek [ardau ásko] [eratén dau].
 Jone.ERG [wine much.ABS] [drink.IMP AUX.3SG.PR]
 ‘Jone drinks a lot of wine.’
- b. Míkel [Jonen etxeá] [jungó ra].
 Mikel.ABS [Jon.GEN home.IN.SG] [go.FUT AUX.3SG.PR]
 ‘Mikel will go to Jon’s place.’

The subject and the verbal complex (participle and auxiliary) in both sentences contain an accented word, and are thus both stressed at the word level.¹⁶ On the other hand, the preverbal phrase in both sentences is stressed according to the PSR. Of all these stress domains, the preverbal phrase contains what can be called the nuclear stress (NS) in the sentence. There are two properties of this phrase which support this conclusion. First, the pitch range of all material following the stressed vowel in this phrase is significantly lowered with respect to the rest of the sentence (see Hualde, Elordieta and Elordieta 1994, G. Elordieta 1997a, and especially G. Elordieta 2003: 76-83, for details). Second, if a particular constituent in the sentence is focused, it must be the one preceding the verb.¹⁷ In both sentences in (24),

¹⁶ As noted in footnote 6, the verbal complex behaves as a single word with respect to assignment of word level stress and other phonological processes.

¹⁷ Focus on postverbal phrases is possible with a special ‘corrective’ interpretation. See A. Elordieta (2001) and Ortiz de Urbina (2002).

the preverbal phrase can be understood as focused, but the verb and the subject cannot. As expected, if the order of constituents is altered, the possible focus readings are different:

- (25) a. [Ardau asko] **Jónek** [eraten dau].
 [wine much.ABS] **Jone.ERG** [drink.IMP AUX.3SG.PR]
 ‘Jone drinks a lot of wine.’
- b. [Jonen etxea] **Míkel** [jungo ra].
 [Jon.GEN home.ALL.SG] **Mikel.ABS** [go.FUT AUX.3SG.PR]
 ‘Mikel will go to Jon’s place.’

In (25), the subject, by being in preverbal position, contains NS and can thus be understood as focused. Other constituents (i.e. the verbal complement and the verbal complex) cannot be the focus of the sentence. All these facts follow if, in Basque, as in other languages, the focused constituent in a sentence must contain the nuclear stress in that sentence (see, among others, Chomsky 1971, Jackendoff 1972, Selkirk 1984).

The facts discussed above can be summarized with the following provisional generalization:

- (26) NS in Basque is on the preverbal constituent.

As argued for in Cinque (1993), Zubizarreta (1998), and Arregi (2002), the placement of NS in many languages such as English and German is determined by an algorithm which is sensitive to syntactic structure. In particular, NS in these languages is determined by the following generalizations:

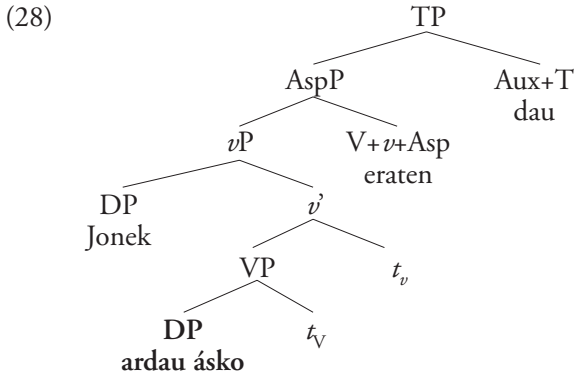
- (27) *The Nuclear Stress Rule (NSR)*¹⁸

- a. In a head-complement structure, the complement is more prominent than the head.
- b. In an X'-specifier or XP-adjunct structure, the head (X' or XP) is more prominent than the non-head.

This version of the NSR can account for the distribution of NS in Basque as well (see A. Elordieta 2001, Arregi 2002). Consider first the sentence in (24a). It has the following structure:¹⁹

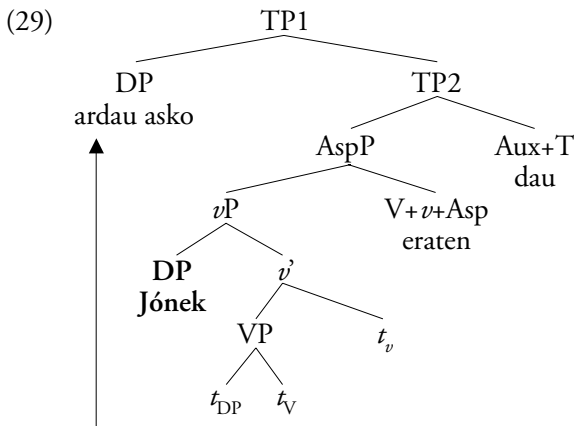
¹⁸ See Arregi (2002) for details. In that work, I argue that these generalizations cannot be explained in terms of depth of embedding (cf. Cinque 1993) or asymmetric c-command (cf. Zubizarreta 1998), and propose a formalization in terms of the more basic syntactic notions of headedness and branching.

¹⁹ For the details of Basque clause structure assumed here, see Laka (1990) and Arregi (2000, 2002).



If we apply the NSR to this sentence in a cyclic, bottom-up fashion, we correctly predict that NS is on the object DP. First, the object is the only overt constituent in v' , and thus trivially has NS within this constituent. Within vP , the second part of the NSR ((27b), henceforth NSRb) assigns more prominence to v' , so that NS within vP is also on the object. Within AspP, the first part of the NSR ((27a), henceforth NSRa) assigns more prominence to vP , and within TP, NSRa assigns more prominence to AspP. The result, as desired, is that the object has NS in the sentence.

Sentence (24b) has the same structure, except that the object DP is moved to a left-peripheral position:²⁰



In this structure, the subject DP is the only overt constituent within vP , and thus has NS within vP . Furthermore, the subject is also the most prominent constituent within AspP and TP2, due to NSRa. Finally, in TP1, NSRb assigns NS to TP2. The result is that the subject is correctly assigned NS in the sentence.

²⁰ Following Arregi (2002), I assume that leftward movement in Basque results in adjunction to TP. This particular detail of the analysis is not important for the present paper.

The analysis also correctly predicts that NS can be on the verbal complex:

- (30) a. Jónék₁ ardaу asko₂ [TP t₁ t₂ eráten dau].
 Jone.ERG₁ wine much.ABS₂ [TP t₁ t₂ drink.IMP AUX.3SG.PR]
 ‘Jone drinks a lot of wine.’
- b. Jónék₁ [TP t₁ t₂ eráten dau] ardaу asko₂.
 Jone.ERG₁ [TP t₁ t₂ drink.IMP AUX.3SG.PR] wine much.ABS₂
 ‘Jone drinks a lot of wine.’

In these examples, both subject and object are moved out of TP.²¹ As a result, the verbal complex is the only overt constituent in TP. NSRb ensures that TP is the most prominent constituent in the clause, so that the verbal complex is correctly assigned NS. Examples of this type show that the surface generalization in (26) is not valid for all cases: NS is not necessarily on the preverbal constituent, since the verb itself can have NS. This provides evidence for the structure-based definition of the NSR in (27).

Consider next example (21), repeated below, which contains an embedded complement clause:

- (31) [_{CP} [_{DP} Lagún bat] ikusi nebanela] esa ban.
 [_{CP} [_{DP} friend a.ABS] see.PRF AUX.1SG.PST] say.PRF AUX.3SG.PST
 ‘He said that I had seen a friend.’

In this sentence, the embedded object *lagun bat* has NS. This is also as predicted by the NSR. Within the embedded clause, the object is assigned NS, in a way similar to (28) above. The complement clause is also assigned more prominence within the matrix clause, due to NSRa. The result is that the embedded object has NS in the sentence.

There is, however, a detail about the application of the NSR which has been glossed over in the examples above. For instance, in (31), NS is assigned to the embedded DP. However, this DP has internal structure. Similarly, in (28), NS is assigned to the object DP, and this DP has internal structure as well. Both DPs are headed by an (indefinite) DP whose complement is an NP:

- (32) [_{DP} NP D]

Clearly, this DP-internal structure is ignored by the NSR. If it were not, we would expect NS to be assigned to the complement NP, i.e. to the noun inside the DP. This is clearly not the case. In the case of the DP in (28), *ardau ásko*, NS is on D. On the other hand, in the case of the DP (31), *lagún bat*, stress is on the noun. Both DPs are assigned stress internally by the PSR, as explained in the previous section. The PSR ignores the internal structure of these DPs, and simply assigns stress to the penultimate syllable. Since the phrase-final determiner in (28) is

²¹ In (30b), the object undergoes rightward movement, resulting in adjunction to TP. The existence of this type of movement is crucial to the analysis. Evidence that this is the correct account of postverbal phrases is given in Arregi (2002: §5).

bisyllabic, it is assigned stress. In (31), the determiner is monosyllabic, so stress is assigned to the preceding noun.

It is important to note that this conclusion is independent of our particular assumptions about the internal structure of DPs in Basque. Both DPs discussed in the previous paragraph have the same structure (whichever it is), but stress is assigned to different subconstituents. For instance, we could assume, following G. Elordieta (1997b), that NP is generated to the right of D in Basque, and that the surface NP D order is the result of leftward movement of NP to the specifier position of DP. Under this analysis, we would need to reach the same conclusion: since stress is assigned to different subconstituents in these examples, it is clear that stress assignment within these DPs is not sensitive to syntactic structure.

To summarize so far, there are two different rules of stress assignment at the phrase level: the PSR and the NSR. As shown in the previous section, the domain of the PSR is unembedded islands, and its application is independent of the internal syntactic structure of the domains it applies to. On the other hand, the NSR is sensitive to the internal structure of the domains it applies to. Furthermore, its domain of application is above the domain of the PSR. For instance, in (28), the PSR assigns stress to the penultimate syllable in the object DP, which is an unembedded island. The NSR applies to constituents dominating this DP (i.e. VP, *v'*, *vP*, AspP and TP), assigning NS to whichever syllable is assigned stress by the PSR in the object DP.²²

From these generalizations about phrasal stress, we can conclude that the internal structure of unembedded islands is invisible to phrase stress rules in NBB. We can restate these generalizations as follows:²³

²² In most descriptions of NBB accentual systems, it is claimed that only the preverbal constituent (i.e. the one assigned stress by the NSR) contains phrase level stress, i.e. it is the only one that contains a drop in pitch due to phrase level stress rules. Consider the following example:

(i) *Jonek lagun bat ikusi rau goixin.*
 Jon.ERG friend a.ABS see.PRF AUX.3SG.PR morning.IN.SG
 'Jon has seen a friend this morning.'

According to the PSR, the phrases *Jonek*, *lagun bat*, *ikusi rau*, and *goixin* should all have phrase level stress. However, it is usually claimed that only the preverbal one (*lagun bat*) has a drop in pitch characteristic of stress (see Hualde, Elordieta and Elordieta 1994, G. Elordieta 1997a, Elordieta 2003). If this is the case, the rules proposed in this paper need to be modified accordingly (e.g. by ensuring that the rules aligning tones with stressed syllables do not apply to syllables with phrase stress that are not assigned nuclear stress). With respect to phrases to the left of the one assigned NS (e.g. *Jonek* in (i)), this claim is substantiated in Hualde, Smiljani and Cole (2000). They show that these phrases do not contain the drop in pitch characteristic of stress. However, it is not clear that the same is true for phrases to the right of the one assigned NS. For instance, according to my informant's judgments, the verbal complex *ikusi rau* in (i) contains a drop in pitch starting on its penultimate syllable, just as it would if it were the constituent assigned NS by the NSR. In addition, some preliminary data suggests that phrases appearing to the right of the verbal complex also have the drop in pitch characteristic of stress. Since, at present, the description of the relevant facts is not detailed enough, I leave this as a question for future research.

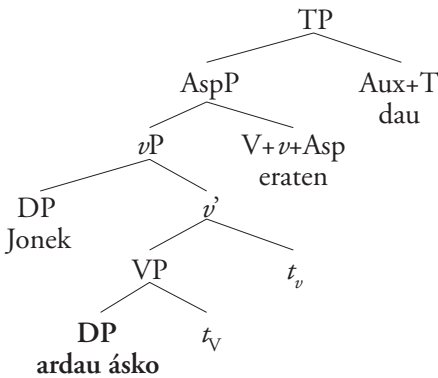
²³ The fact that the structure of certain phrases is invisible to the NSR has certain important consequences for the relation between prosody and focus in NBB. However, this issue is only tangential to the main topic of this paper. See Hualde, Elordieta and Elordieta (1994), G. Elordieta (1997a, 2001, 2003: 85-89), and Arregi (2002: §5.5.).

- (33) a. Phrasal stress rules in NBB are cyclic, and their minimal domain of application is unembedded islands.
 b. The PSR applies only to the minimal domain, and is not sensitive to its internal syntactic structure.
 c. The NSR applies to all other possible domains, and is sensitive to their internal syntactic structure.

We can thus think of phrasal stress in NBB as applying in two steps. First, the PSR assigns stress within unembedded islands. Second, the NSR assigns stress to all domains above unembedded islands.

This analysis can be implemented using the formalism of the metrical grid.²⁴ Consider example (28) again, repeated here:

- (34) Jónék **ardau ásko** eratén dau.
 Jone.ERG **wine much.ABS** drink.IMP AUX.3SG.PR
 ‘Jone drinks a lot of wine.’



The PSR and word-level stress (see section 2) assign the following metrical grids to the subject, object and verbal complex:

- (35) * * *
 Jonek [ardau asko] [eraten dau]

The PSR applies in its domain and is not sensitive to the internal structure of this domain. In particular, it assigns penultimate stress to the penultimate syllable in the object. Next, the NSR applies cyclically, assigning first NS to the object DP within VP and v' , since it is the only overt constituent in these phrases:

- (36) * * *
 Jonek [_v ardausko] [eraten dau]

²⁴ See, among others, Liberman and Prince (1977), Prince (1983), Selkirk (1984), Halle and Vergnaud (1987), Idsardi (1992), and Halle and Idsardi (1995). Although the notation used in the text most closely resembles the formalism of the ‘pure grid’ (Prince 1983, Selkirk 1984), the particular details are not relevant for our purposes. The same results are obtained in Arregi (2002), which uses the formalism developed in Halle and Vergnaud (1987) and Idsardi (1992).

In the next cycle, the NSR applies to vP , assigning more prominence to v' (due to NSRb):

- (37)
- | | | | | |
|---|--|---|---|--|
| | | * | | |
| * | | * | * | |
- [vP Jonek ardau asko] eraten dau

Finally, NSRa ensures that NS stays in vP in both the AspP and the TP cycles:

- (38)
- | | | | | |
|---|--|---|---|--|
| | | * | | |
| * | | * | * | |
- [$_{TP}$ Jonek ardau asko eraten dau]

As desired, the result is that NS in the sentence is on the penultimate syllable of the object DP.

As further illustration of the analysis, consider the example in (23) (repeated below), which contains a relative clause:

- (39) Ori katu adopta ban **gixóna** esautzén dot.
 that.ABS cat.ABS.SG adopt..PRF AUX.3SG.PST **man.ABS.SG** know.IMP AUX.1SG.PR
 'I know the man who adopted that cat.'

I assume that this sentence has the following structure:

- (40)
-
- ```

graph TD
 TP --> AspP
 TP --> AuxT["Aux+T
dot"]
 AspP --> vP
 AspP --> VvAsp["V+v+Asp
esautzen"]
 vP --> pro
 vP --> v_prime["v'"]
 v_prime --> VP
 v_prime --> tv["t_v"]
 VP --> DP
 VP --> tV["t_V"]
 DP --> ori
 DP --> katu
 DP --> adopta
 DP --> ban
 DP --> gixona

```

In this example, the object DP has NS in the sentence. First, the PSR assigns stress to the penultimate syllable in this DP, and word level stress is assigned to the verbal complex. As in previous examples, this DP is an unembedded island, and its internal structure is ignored for the purposes of the PSR:

- (41)
- |  |  |   |   |  |
|--|--|---|---|--|
|  |  | * | * |  |
|--|--|---|---|--|
- [ $_{DP}$  ori katu adopta ban gixona] esautzen dot

Next, the NSR assigns NS to the object in the VP,  $v'$  and  $vP$  cycles, since it is the only overt constituent in these phrases:

- (42)
- |  |  |   |   |  |
|--|--|---|---|--|
|  |  | * | * |  |
|--|--|---|---|--|
- [ $_{vP}$  ori katu adopta ban gixona] esautzen dot

Finally, NSRa ensures that NS stays in the object within both AspP and TP:

- (43)
- |  |   |   |  |
|--|---|---|--|
|  | * |   |  |
|  | * | * |  |
- [<sub>TP</sub> ori katu adopta ban gixona esautzen dot]

Thus, the analysis correctly predicts that NS is assigned to the penultimate syllable of the object DP.

To conclude this section, we have established that NBB has two stress assignment rules at the phrase level: the PSR and the NSR. Their domain of application is different (the PSR applies to unembedded islands and the NSR to domains above that), and their mode of application is also different (the NSR is sensitive to syntactic structure, and the PSR is not).<sup>25</sup> This distinction between the two rules is crucial in understanding the assignment of stress in NBB. In the next section, I compare this analysis with the one proposed in A. Elordieta (2002), where an attempt is made at collapsing these two rules. As will be argued, the latter analysis is not successful in describing correctly certain basic facts about stress in NBB.

#### 4. On the Need for Both the PSR and the NSR

In A. Elordieta (2002), it is proposed that the NSR is sufficient to account for all the phrase level stress facts in NBB; according to this author, there is no PSR separate from the NSR. Consider, for instance, the following DP in Lekeitio Basque (example (34a) in A. Elordieta 2002), which is the variety of NBB discussed in that work:

- (44) [Jonen **semiá** ] ekarri dabe.  
 [Jon.GEN son.ABS.SG] bring.PRF AUX.3PL.PR  
 ‘They brought Jon’s son.’

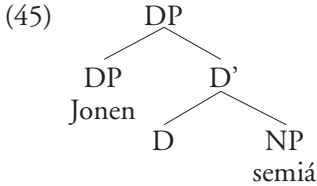
Stress in this sentence works in the same way as similar ones in OB. The main difference is that, in Lekeitio Basque, the PSR assigns stress to the *final* syllable in its domain. Since the DP enclosed in brackets is an unembedded island, the PSR assigns stress to its final syllable. Then, the NSR assigns nuclear stress to this object DP in the sentence, in the same way as similar examples discussed in the previous section.

However, A. Elordieta (2002) argues that this is not the way stress assignment works. In particular, she argues that the only relevant stress rule is the NSR. That is, the NSR not only determines that the object DP has NS in the sentence; it also

<sup>25</sup> As pointed out by an anonymous reviewer, the fact that the two rules have separate domains is a stipulation. However, it is the same stipulation that is needed for other languages with phrasal stress. For instance, in English, the NSR applies at the phrase level, but does not apply inside words. This is the domain of word stress rules. What is needed in NBB is the same, except that the line dividing the two domains is not the word, but syntactic islands. Just as there is nothing inherent to islands that make their internal structure invisible to the NSR in NBB, there is nothing inherent to words that make their internal structure invisible to the NSR in English.



assigns the correct stress within the DP. She proposes that the genitive DP is in the specifier position of the object DP:



As can easily be checked, the NSR as defined in (27) correctly assigns NS to *semiá* in this DP. In order for the analysis to work, we would need to assign the right structure to all DPs, so that the final word in it always has NS. However, even if we were able to do so, the discussion in the previous sections should make it clear that this is not the right approach to phrasal stress in NBB.

First, this analysis assumes that stress in the DP domain is on the last word in the DP. However, as we saw above, this is only a spurious generalization. In Lekeitio Basque, it is not possible to determine this: since phrase stress is on the last syllable of the relevant domain, it always falls on the last word. However, since stress is typically on the penultimate syllable of the domain in OB, we can check in this dialect whether stress really has to be on the final word of the domain by using monosyllabic words. As we saw in the contrast in (9), repeated here, this is not the case

- (46) a. [Etxé bat ] erosi rau.  
           [house a.ABS ] buy.PRF AUX.3SG.PR  
           ‘He’s bought a house.’
- b. [Etxe báten] eon da.  
           [house a.IN ] be.PRF AUX.1SG.PR  
           ‘He’s been in a house.’

Presumably, the two bracketed DPs in these sentences have the same internal structure. However, in the first one, whose final word is monosyllabic, stress is on the penultimate word, while, in the second one, the final word is polysyllabic and accordingly contains stress. The following OB minimal pair illustrates the same point:

- (47) a. [Iru jai ] eoten dis.  
           [three party.ABS ] be.IMP AUX.3PL.PR  
           ‘There are usually three parties.’
- b. [Iru gíxon ] eoten dis.  
           [three man.ABS ] be.IMP AUX.3PL.PR  
           ‘There are usually three men.’

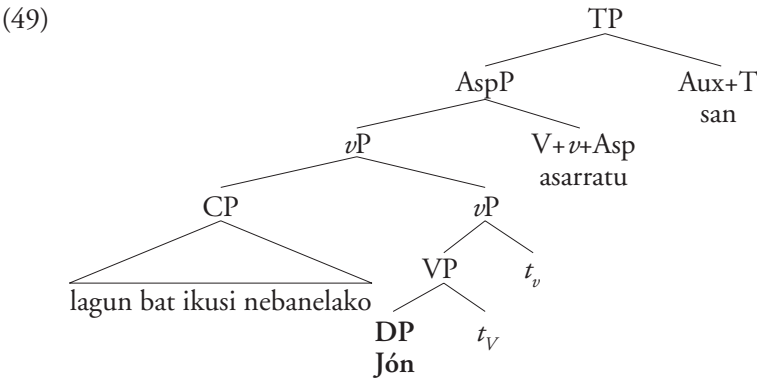
The only feature that distinguishes the two examples is the number of syllables in the noun inside the bracketed DP: one in (47a) and two in (47b). Accordingly, stress is on the noun in the latter, but not in the former. Since the syntactic structure of the two examples is identical, we must conclude that stress within the DP cannot be assigned by the NSR. That is, NBB has a PSR which is independent

of the NSR and which does not take into account the internal syntactic structure of the domain it applies to.<sup>26</sup>

Another problem with the attempt to eliminate the PSR comes from embedded clauses. Consider again the contrast between complement and adjunct clauses:

- (48) a. [<sub>CP</sub>[<sub>DP</sub> **Lagún** bat ] ikusi nebanela ] esa ban.  
 [<sub>CP</sub>[<sub>DP</sub> **friend** a.ABS ] see.PRF AUX.1SG.PST ] say.PRF AUX.3SG.PST  
 ‘He said that I had seen a friend.’
- b. [<sub>Adj</sub>[<sub>DP</sub> Lagun bat ] ikusi nebaneláko ] **Jón** asarratu san.  
 [<sub>Adj</sub>[<sub>DP</sub> friend a.ABS ] see.PRF AUX.1SG.PST.CAUS] **Jon**.ABS get.angry.PRF  
 AUX.3SG.PST  
 ‘Jon got angry because I saw a friend.’

In (48a) the embedded CP is a complement, so it is not an island. Therefore, the DP within it is an unembedded island. Within this latter domain, the PSR assigns stress to the penultimate syllable, which is the final syllable of the noun *lagun*. Furthermore, the NSR assigns nuclear stress to this syllable, as can easily be checked by applying the algorithm in (27). On the other hand, in (48b), the embedded adjunct clause is an island. Furthermore, it is not embedded within any other island, so it is a domain for the PSR. Whatever stress is assigned within this domain, this is not going to be the nuclear stress in the sentence. Rather, the NSR assigns NS to the matrix subject *Jon*. To see how this is the case, consider the structure of this sentence:<sup>27</sup>



<sup>26</sup> One could argue that dialects, such as Lekeitio Basque, in which stress is on the final syllable of the domain, do not have the PSR and that the NSR is exclusively responsible for phrase level stress. However, even in these dialects, the NSR by itself is not enough. For instance, in the Lekeitio Basque example in (44), the NSR would assign stress to the final word in the DP, but the NSR would have nothing to say about which syllable in this word has stress. We would need a separate rule that would place stress on the final syllable of the word assigned nuclear stress by the NSR. In any case, the argument that follows in the text is valid for all varieties of NBB.

<sup>27</sup> Following Arregi (2002), I assume that the subject does not need to be in Spec of TP in Basque. Thus, the subject of the matrix unaccusative verb in (48) is represented in its base position inside VP in (49). This, however, is not crucial to the point made in the text. It is clear that, whatever the position of this subject, the adjunct clause must be in some higher adjunct or specifier position. This is all that is needed for the NSR to correctly assign nuclear stress to the subject.

Since the subject *Jon* is the only overt constituent in the lower  $vP$ , it has NS in this domain. In the higher  $vP$ , the subject is once again assigned NS, due to NSRb. In the AspP cycle, NSRa assigns more prominence to  $vP$  over Asp, so that the subject in  $vP$  retains nuclear stress. Similarly, NSRa assigns NS to AspP within TP, so that the subject in AspP ends up with NS in the sentence, as desired.

On the other hand, if the adjunct clause is closer to the verb than the subject, nuclear stress is on the adjunct clause:

- (50) Jon      [<sub>Adj</sub>[<sub>DP</sub> lagun bat ] ikusi    **nebaneláko**      ] asarratu  
           san.  
           Jon.ABS [<sub>Adj</sub>[<sub>DP</sub> friend a.ABS] see.PRF AUX.1SG.PST.CAUS ] get.angry.PRF  
           AUX.3SG.PST  
           ‘Jon got angry because I saw a friend.’

In this case, the subject is moved to a position outside  $vP$ . As a consequence, the adjunct clause is the only overt constituent in  $vP$ , and is accordingly assigned nuclear stress in the sentence by the NSR. Since the adjunct is an unembedded island, the PSR assigns stress to the penultimate syllable in it, which in this case happens to be in the auxiliary.

Thus, we find an important asymmetry between phrases that are islands and those that are not, due to the way that both the PSR and the NSR apply. When an unembedded island is assigned nuclear stress by the NSR, stress within it is assigned by the PSR to the penultimate syllable. That is why in (50) NS is on the auxiliary, not on any other constituent in the embedded clause. On the other hand, if an embedded clause which is not an island is assigned nuclear stress by the NSR, stress within it is also determined by the NSR. NS in this case will be on whatever unembedded island is assigned nuclear stress by the NSR (and, within the unembedded island, the PSR assigns stress to the penultimate syllable). This is why in (48a) NS is on the object in the embedded clause, not on its auxiliary.

This difference between islands and non-islands cannot be accounted for in an analysis in which there is no distinction between the NSR and the PSR. In particular, in A. Elordieta’s (2002) approach, the NSR would apply to both (48a) and (50) in essentially the same way, so that NS would be assigned in both cases to the object in the embedded clause. Although this makes the right prediction for (48a), where the embedded clause is not an island, it does not for (50), where the embedded clause is an island.

Noting this shortcoming of the analysis, A. Elordieta modifies the NSR. Instead of basing it in the algorithm defined in (27), she proposes that it assigns NS to *the rightmost element to the left of the main verb*. In the case of (50), this algorithm correctly assigns NS to the auxiliary in the embedded adjunct clause. However, by the same token, it should also assign NS to the auxiliary (i.e. the rightmost element) in the embedded complement clause in (48a). As we saw above, this is not correct. Thus, the modification is not sufficient, since it does not make the needed distinction between islands and non-islands.

In this section, I have argued that we cannot do away with the PSR. Both the NSR and PSR are needed in order to achieve a correct description for phrase level stress in NBB. Furthermore, I have also argued that the notion ‘unembedded

island' is crucial. It defines both the domain of application of the PSR, and the domain below which the NSR does not apply. In the next two sections, I discuss further the nature of unembedded islands, and advance some speculations as to why they are relevant for the computation of phrase level stress.

## 5. On the Relation between Islandhood and Stress Assignment

In section 2, it was argued that unembedded islands are domains for phrase level stress in NBB, and evidence was given from different types of islands. In this section, I examine other types of islands which, at first, do not behave precisely as expected. First, I discuss subject clauses and coordinate structures, which, contrary to what might be expected, are not domains for the PSR. However, I argue that these structures are *not* islands to movement (at least in NBB). Surprisingly, these structures turn out to provide strong support for the main claim made in this paper. Second, I examine embedded questions and factive complements, whose behavior with respect to extraction and assignment of phrase level stress in NBB is not clear.

As noted above, subject clauses and coordinate structures are not domains for the PSR in NBB. Consider subject clauses first:

- (51) [<sub>CP</sub> Jonek **óixe** esati ] molestaten nau.<sup>28</sup>  
 [<sub>CP</sub> Jon.ERG **that.ABS** say.ERG ] bother.IMP AUX.3SG.PR  
 'It bothers me that Jon says that.'

In this sentence, the object *oixe* 'that' contains phrase level stress. According to the analysis proposed in this paper, this must mean that this object is an unembedded island, which entails that the subject clause containing it is not an island to movement (and hence not a domain for the PSR). This predicts that extraction from subject clauses should be possible. As illustrated in the following example, this prediction is borne out:

- (52) Se<sub>1</sub> molestate satxu [<sub>CP</sub> Jonek t<sub>1</sub> esati ]?  
 what<sub>1</sub> bother.IMP AUX.3SG.PR [<sub>CP</sub> Jon.ERG t<sub>1</sub> say.ERG ]  
 'What does it bother you that Jon says?'

That subjects are not always islands to movement is not a novel claim (see, for instance, Diesing 1992). Adapting Diesing's (1992) analysis of similar facts in German, we can assume that subjects are VP-(or *vP*-)internal in NBB, so that

<sup>28</sup> In this sentence, the subject clause is expected to be inflected for ergative case, since the matrix auxiliary *nau* is the one found in clauses where there is a third person singular ergative subject. Hence the gloss 'say.ERG' for the embedded verb *esati*. On the other hand, the embedded verb should have the ergative *-k* suffix which all other ergative arguments have. However, my OB informant emphatically rejects *esatik* for *esati* in this and similar examples. Other Basque speakers that I have consulted accept both the suffixed and the unsuffixed forms. I do not know how widespread this phenomenon is, or whether it is limited to OB or NBB. Nevertheless, this point is not relevant to the discussion. See footnote 29.

extraction from them is allowed.<sup>29</sup> Whatever the explanation, the fact that extraction is possible is precisely what is predicted by the analysis of phrase stress proposed in this paper. In particular, no phrase which can contain a subconstituent that is a domain for the PSR can be an island. Subject clauses provide strong confirmation for this claim.

A similar point can be made with coordinate structures:

- (53) a. Jonek [mutillé ta gixóna ] ikusi ban.  
 Jon.ERG [boy.ABS.SG and man.ABS.SG] see.PRF AUX.3SG.PST  
 ‘Jon saw the boy and the man.’
- b. Jonek [[ardáu eraten ] da [arrañe jaten ]] dabil.  
 Jon.ERG [[wine.ABS.SG drink.IMP] and [fish.ABS.SG eat.IMP]] walk.3SG.PR  
 ‘Jon is drinking wine and eating fish.’

In the coordinate structure in (53a), both conjoined DPs contain phrase level stress.<sup>30</sup> For reasons that should be familiar by now, this implies that the coordinate structure is not an island to movement. Similarly, in (53b), both conjoined VPs contain DPs that are assigned phrase level stress. In this case too, this implies that the coordinate structure is not an island to movement. This, in principle, predicts that extraction from these structures should be possible. This prediction is not borne out. Ross’s (1967) Coordinate Structure Constraint (CSC) seems to be as active in Basque as in any other language:

- (54) a. \*Sein<sub>1</sub> ikusi ban Jonek [mutille ta t<sub>1</sub> ]?  
 who<sub>1</sub> see.PRF AUX.3SG.PR Jon.ERG [boy.ABS.SG and t<sub>1</sub> ]  
 ‘Who did Jon see the boy and?’
- b. \*Sein<sub>1</sub> ikusi ban Jonek [t<sub>1</sub> ta mutille ]?  
 who<sub>1</sub> see.PRF AUX.3SG.PR Jon.ERG [t<sub>1</sub> and boy.ABS.SG]  
 ‘Who did Jon see and the boy?’
- (55) a. \*Jon ser dabil [t<sub>1</sub> eraten ] da [arrañe jaten ]?  
 Jon.ABS.SG what.ABS walk.3SG.PR [t<sub>1</sub> drink.IMP] and [fish.ABS.SG eat.IMP]?  
 ‘What did Jon drink and eat fish?’
- b. \*Jon ser dabil [ardau eraten ] da [t<sub>1</sub> jaten ]?  
 Jon.ABS.SG what.ABS walk.3SG.PR [wine.ABS.SG drink.IMP] and [t<sub>1</sub> eat.IMP]?  
 ‘What did Jon drink and eat fish?’

<sup>29</sup> An anonymous reviewer points out that the fact that subject clauses are not islands might be related to the fact that the subject clause in these examples does not have the expected overt realization of ergative case (see footnote 28). In particular, if (overt) ergative case marking is related to movement to Spec of TP, we would be able to explain the lack of overt case marking and the lack of island effects in these examples. I leave this as question for future research.

<sup>30</sup> In the first conjoined DP, stress is on the final syllable of the noun *mutillé* ‘the boy’. Recall that phrase level stress is on the penultimate syllable in OB, as illustrated by the second conjunct *gixóna* ‘the man’. The reason why the first conjunct is stressed on the final syllable of the noun is that the conjunction *ta* ‘and’ is cliticized to it (*merged*, in the sense of Marantz 1988), so that stress is on the penultimate syllable of the relevant phrase [*mutillé ta*] after cliticization.

It seems, then, that coordinate structures are a counterexample to the present analysis. However, several authors have argued convincingly that the CSC is in fact *not* a constraint on movement (see Goodall 1987, Ruys 1992, Munn 1993, Lin 2002 and references cited there). Specifically, they argue that extraction from conjuncts is possible, and that sentences like (54-55) are ungrammatical for a different reason. One of the main arguments for this explanation of CSC effects comes from *Across-the-Board* (ATB) movement (Williams 1977; examples (75a, 96) from Ruys 1992):

- (56) \* The madrigals which<sub>1</sub> Henry [plays the lute] and [and sings *t*<sub>1</sub>] sound lousy.  
 (57) The madrigals which<sub>1</sub> Henry [learned *t*<sub>1</sub> from Peter] and [sang *t*<sub>1</sub> to Mary] sound lousy

(56) is a standard case of a CSC violation: the relative operator is extracted from one of the conjuncts, resulting in ungrammaticality. (57) is a case of ATB movement: when the extracted element binds a trace in *both* conjuncts, the result is grammatical. Sentences with ATB movement provide evidence that movement out of a coordinate structure, by itself, does not result in ungrammaticality. As argued by the authors cited above, CSC effects must be the consequence of a constraint that checks the output of the derivation, making sure that anything extracted from the coordinate structure binds traces (or pronouns) in all conjuncts.<sup>31</sup>

As expected, ATB movement is also possible in Basque, as exemplified in (59):

- (58) \* [Se idioma ]<sub>1</sub> pentzate su Jonek ...  
 [which language.ABS]<sub>1</sub> think.IMP AUX.2SG.PR Jon.ERG ...  
 [*t*<sub>1</sub> ondo idatzi] te [Latiñe eitzxen] dabela?  
 [*t*<sub>1</sub> well write] and [Latin.ABS.SG do.IMP] AUX.3SG.PR.COMP  
 ‘Which language do you think Jon writes well and speaks Latin?’  
 (59) [Se idioma ]<sub>1</sub> pentzate su Jonek ...  
 [which language.ABS]<sub>1</sub> think..IMP AUX.2SG.PR Jon.ERG ...  
 [*t*<sub>1</sub> ondo idatzi] te [*t*<sub>1</sub> txarto irakurten] dabela?  
 [*t*<sub>1</sub> well write] and [*t*<sub>1</sub> badly read.IMP] AUX.3SG.PR.COMP  
 ‘Which language do you think Jon writes well and reads badly?’

The Basque examples in (58-59) are parallel to the English ones in (56-57). (58) is a CSC effect: a question wh-word is extracted from only one of the conjuncts, resulting in ungrammaticality. In the ATB example in (59), the wh-word binds a gap in both conjuncts, and the result is grammatical. Thus, Basque also supports the claim that the CSC is not a constraint on movement, and that coordinate structures are not islands.

Thus, the fact that phrases inside coordinate structures are domains for the PSR is precisely what is expected in the present analysis. Since coordinate structures are not islands, phrases contained in them are domains for the application of the PSR. This explains the stress data in (53).

<sup>31</sup> The discussion in the text is only a sketch of the arguments given in the literature. See the works cited above for more detailed argumentation.

To summarize so far, both subject clauses and coordinate structures provide additional evidence for the hypothesis that only unembedded islands are possible domains for the PSR. In both cases, the arguments given above show that these structures are not islands to movement (in NBB), and, accordingly, that they are not domains for the application of the PSR.

There are, however, two types of islands that do not seem to behave precisely as expected. Consider first factive clauses, that is, clauses that are complements to verbs like *know*:

- (60) [<sub>CP</sub> Gixóna ikusi bana Mirenek ] daki Aitorrek.  
 [<sub>CP</sub> man.ABS.SG see.PRF AUX.3SG.PST.COMP Miren.ERG] know.3SG.PR Aitor.ERG  
 ‘Aitor knows that Miren saw the man.’

The object *gixóna* ‘the man’ inside the factive clause has phrase level stress. Given the analysis defended in this paper, this means that factive clauses should not be islands to movement. However, as is well known, factive clauses are (weak) islands:

- (61) ?? Seiñ<sub>1</sub> ddaki Aitorrek [<sub>CP</sub> Mirenek t<sub>1</sub> ikusi bana ]?  
 who<sub>1</sub> know.3SG.PR Aitor.ERG [<sub>CP</sub> Miren.ERG t<sub>1</sub> see.PRF AUX.3SG.PST.COMP]  
 ‘Who does Aitor know Miren saw?’

At this point, it is not clear what the significance of these data is. First, judgments on extraction from factive clauses are not as strong as with other islands. A more comprehensive study of this phenomenon is needed before any firm conclusion can be reached about the right analysis. If, for instance, it turns out that the unacceptability of examples like (61) is not due to constraints on movement, our explanation of the factive clause data might be the same as with coordinate structures. Second, A. Elordieta (2002: 160) claims that phrase level stress is *not* possible on the object of factive clauses. This disagreement in the data calls for a more comprehensive study of the distribution of phrase level stress in factive clauses.

Therefore, we can say that the factive clause data cannot be used conclusively as an argument in favor of or against the proposal in this paper. This is thus a topic in need of further research.

Consider next embedded questions. In NBB, an embedded question behaves as a domain for the application of the PSR; the penultimate syllable in it has phrase level stress, and no constituent within it is a domain for the PSR:

- (62) [<sub>CP</sub> Gixona ikusi **bában** ] pregunta netzan Jonei.  
 [<sub>CP</sub> man.ABS.SG see.PRF **if.AUX.3SG.PST**] ask.PRF AUX.1SG.PST Jon.DAT.  
 ‘I asked Jon if he had seen the man.’

This predicts that embedded questions are islands to movement in NBB. However, this prediction is not borne out. At least the type of embedded yes/no question illustrated in (62) does not seem to be an island:

- (63) a. Sein<sub>1</sub> pregunta sentzan Jonei [<sub>CP</sub> t<sub>1</sub> ikusi baban ]?  
 who.ABS<sub>1</sub> ask.PRF AUX.2SG.PST Jon.DAT [<sub>CP</sub> t<sub>1</sub> see.PRF AUX.3SG.PST]  
 ‘Who did you ask Jon whether he saw?’

- b. Señas<sub>1</sub> pregunta sentzan Jonei [<sub>CP</sub> Miren t<sub>1</sub> eskondu basan ]?  
 who.COM<sub>1</sub> ask.PRF AUX.2SG.PST Jon.DAT [<sub>CP</sub> Miren.ABS t<sub>1</sub> marry.PRF if.AUX.3SG.PST]  
 'Who did you ask Jon whether Miren married?'

At present, this seems to be the only pattern not predicted by the proposal made in this paper. Since embedded questions are domains for the PSR and no subconstituent in them can be a domain for the PSR, we would expect them to be islands to movement in NBB, which is contrary to fact. This suggests that there are conditions for being a domain for the PSR in NBB over and above the ones uncovered in this paper. On the other hand, the fact that embedded questions are islands to movement in other languages (e.g. English) offers a possible way to attack this problem. However, for reasons of time and space, I cannot at present provide a complete solution, and I leave this as a question for future research.

## 6. Conclusion

In this paper, I have argued that islandhood is crucial in understanding the distribution of phrase level stress in NBB. More specifically, I proposed that the internal structure of (unembedded) islands is invisible to the application of phrase level stress rules in this language. Furthermore, I also argued that NBB has two separate stress rules at the phrase level, the PSR and the NSR, and that analyses that attempt to collapse the two cannot account for all the data.

However, nothing has been said about a possible explanation for the relation between islandhood and phrase level stress described in this paper. Recall that the facts can be described as follows (see section 3). In NBB, there are two separate rules that assign stress at the phrase level: the PSR and the NSR. In both, the internal structure of unembedded islands is 'invisible'. With respect to the PSR, this structure is invisible in the sense that its domain of application is unembedded islands, and their internal structure is irrelevant to its application. With respect to the NSR, this internal structure is invisible in the sense that unembedded islands mark the domain below which the NSR cannot apply.

The fact that unembedded islands are 'invisible' to phrase stress rules in NBB and the fact that extraction from islands is not possible seem to be related. In both cases, the internal structure of a phrase is not accessible to rules that apply at the phrase level. On the other hand, even though there seems to be a natural connection between these two facts, this is obviously not true of all languages. In English, for instance, islandhood is irrelevant for the computation of stress at the phrase level: there is nothing like the PSR, and all types of phrases are domains for the application of the NSR (see Chomsky, Halle and Lukoff 1956, Chomsky and Halle 1968 and much subsequent work). The present proposal can thus be seen as a preliminary report on the relation between movement and stress in NBB, and of its possible consequences for the theory of the syntax-prosody interface and parametric variation therein.



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