Squibs and Discussion

Are Turkish Preverbal Bare Nouns Syntactic Arguments?

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1 Introduction

The contrast in the semantics of Turkish object NPs with and without overt case morphology has received some attention in the literature (see, e.g., Dede 1986, Knecht 1986, Tura 1986, Enç 1991). The NPs with overt case morphology in (1a) and (1b) yield specific readings,[1] whereas the NPs without case morphology in (1c) and (1d) are nonspecific. In this squib, I will examine nonspecific objects and their syntactic and semantic behavior.

(1) a. Yasemin anahtar-ı kaybet-ti.
Yasemin key-ACC lose-PAST
'Yasemin lost the key.'
b. Yasemin bir anahtar-ı kaybet-ti.
Yasemin one key-ACC lose-PAST
'Yasemin lost one key.'
c. Yasemin bir anahtar kaybet-ti.
Yasemin a key lose-PAST
'Yasemin lost a key.'
d. Yasemin anahtar[2] kaybet-ti.
Yasemin key lose-PAST
'Yasemin lost keys.'

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The following abbreviations are used in the glosses: ACC = accusative case, AGR = agreement, AOR = aorist, DAT = dative, LOC = locative, MOD = modality, NOM = nominative, PAST = past tense, PL = plural, PROG = progressive, 1SG = first person singular, 2SG = second person singular.

[1] The accusative case marker in Turkish is *-I.* It can alternate among *-ı, -i, -u,* and *-ü* owing to vowel harmony.

[2] A preverbal bare noun in Turkish is unspecified for number (see section 2.6). That means it can be interpreted neither as singular nor as plural. But bare nouns are translated into English using the plural form because their atelic interpretation can only be provided by a plural count noun or mass noun.

Nonspecific objects in Turkish cannot undergo overt syntactic movement and no lexical item can intervene between the object without case morphology and the verb, whereas specific objects are free in this respect, as in (2) and (3) (see also Erguvanlı-Taylan 1984, Kornfilt 1994, Tosun 1999).

(2) a. Bir anahtar-ı/Anahtar-ı Yasemin kaybet-ti.
one key-ACC/key-ACC Yasemin lose-PAST
'Yasemin lost one key/the key.'
b. *Bir anahtar/Anahtar Yasemin kaybet-ti.
a key/key Yasemin lose-PAST
'Yasemin lost a key/keys.'

(3) a. Yasemin bir anahtar-ı/anahtar-ı dün kaybet-ti.
Yasemin one key-ACC/key-ACC yesterday lose-PAST
'Yasemin lost one key/the key yesterday.'
b. *Yasemin bir anahtar/anahtar dün kaybet-ti.
Yasemin a key/key yesterday lose-PAST
'Yasemin lost a key/keys yesterday.'

Given the immobility of caseless direct objects in Turkish, some investigators (see, e.g., Hankamer 1971, Aissen 1974) suggest that such nominals undergo incorporation with their verbs. Kornfilt (1994) further claims that the head noun of the object without overt case morphology is incorporated into the verb, forming a complex predicate at D-Structure, and that the head of this complex predicate governs the entire NP, following the proposal made by Baker (1988). Under such accounts, the nonspecific indefinite object *bir anahtar* 'a key' in (1c) and the nonspecific bare noun *anahtar* 'key' in (1d) are both subject to the same analysis. On the other hand, Knecht (1986) recognizes a distinction between these two nonspecifics and claims that only the latter—nouns or noun stems—incorporates in Turkish, following Erguvanlı-Taylan's (1984) observation that nonspecific indefinite objects do not incorporate with their verbs.

In this squib, I will argue that we need a more refined syntactic analysis of nonspecifics by showing in section 2 that in Turkish, bare Ns and NPs without case morphology display different syntactic and semantic behavior. I will offer an analysis in section 3 to account for these differences, claiming that the bare N in (4a) and the NP in (4b) actually occupy two different syntactic positions.

(4) a. Yasemin kitap oku-du.
Yasemin book read-PAST
'Yasemin read books/did book reading.'
b. Yasemin bir kitap oku-du.
Yasemin a book read-PAST
'Yasemin read a book.'

2 Differences between Caseless Object NPs and Bare Ns

2.1 Modification

In Turkish, some modifiers such as *kötü* 'bad', *hızlı* 'fast', and *güzel* 'beautiful' can be either adjectives or adverbs depending on the position in which they appear in the sentence.[3]

(5) a. Mehmet kötü araba kullan-ıyor.
Mehmet bad car use-PROG
'Mehmet drives badly.'
b. Mehmet kötü bir araba kullan-ıyor.
Mehmet bad one car use-PROG
'Mehmet drives a bad car.'

(6) a. Oya bugün iyi müze gez-di.
Oya today good museum tour-PAST
'Oya toured musuems well today.'
b. Oya bugün iyi bir müze gez-di.
Oya today good one museum tour-PAST
'Oya toured a good museum today.'

There is a clear contrast between examples (a) and (b) in (5) and (6). In the (a) sentences, the adverbs *kötü* 'badly' and *iyi* 'well' can modify the events described by *kullanmak* 'drive' and *gezmek* 'tour', respectively,[4] but in the (b) sentences, the modifiers are obligatorily interpreted as modifying the head N. The presence of a determiner in the internal structure of the NPs somehow blocks the modifiers from modifying the verb, whereas bare Ns are transparent in this respect.

[3] These modifiers are interpreted as adverbs when they are in preverbal position, as in (i).

(i) Çoçuk iyi uyu-du.
child good sleep-PAST
'The child slept well.'

[4] A reviewer points out that native speakers get an adjectival reading for (5a) and (6a), but with generic meaning. The adjectival modification of bare Ns is naturally expected, and one can always get an adjectival reading in this position when the meanings of the adjective and the bare N are compatible. Moreover, not just any adjective in this position can modify the event.

(i) Bütün gün koyu çay iç-ti-m.
all day dark tea drink-PAST-1SG
'All day I drank dark tea.'

Koyu 'dark' cannot be interpreted as an adverb because one cannot drink darkly. But the point I am making based on (5) and (6) is that when modification can be interpreted as adverbial as in (5a) and (6a), the bare noun must be considered to occupy V since these modifiers can be interpreted as adverbs only when they are preverbal. Moreover, the modifiers in the (b) sentences of (5) and (6) can never have adverbial readings.

2.2 *Ellipsis*

Deleting the bare N leads to ungrammaticality in (7a), whereas ellipsis of the entire nominal complement clause is grammatical in (7b). Deleting the sequence Det + NP is also perfectly acceptable, as in (7c).

(7) a. Bütün gün kitap oku-du-m, *san-a da
all day book read-PAST-1SG you-DAT too
oku-ma-n-ı tavsiye ed-er-im.
read-NOM-AGR.2SG-ACC recommend-AOR-1SG
'I read books/did book reading all day, I recommend you to read (it) too.'

b. Bütün gün kitap oku-du-m, san-a da
all day book read-PAST-1SG you-DAT too
tavsiye ed-er-im.
recommend-AOR-1SG
'I read books/did book reading all day, I recommend reading to you too.'

c. Dün bir kitap oku-du-m, san-a da
yesterday one book read-PAST-1SG you-DAT too
oku-ma-n-ı tavsiye ed-er-im.
read-NOM-AGR.2SG-ACC recommend-AOR-1SG
'I read a book yesterday, I recommend you to read (it) too.'

d. Dün bir kitap oku-du-m, san-a da
yesterday one book read-PAST-1SG you-DAT too
tavsiye ed-er-im.
recommend-AOR-1SG
'I read a book yesterday, I recommend it to you too.'

The ellipsis in (7b) is interpreted as the event 'book reading', whereas the ellipses in (7c) and (7d) are interpreted as 'the book'. The contrasting data in (7) suggest that the bare N does not form a constituent on its own but the sequence Det + NP does.

2.3 *Coreference*

Bare Ns also differ from the sequence Det + NP with respect to coreference. It is impossible to refer back to the bare N in (8a), whereas the sequence Det + NP is available for coreference in (8b).

(8) a. *Dün film$_i$ seyret-ti-m, o-nu$_i$/on-lar-ı$_i$
yesterday film watch-PAST-1SG that-ACC/that-PL-ACC
sen de seyret-meli-sin.
you too watch-MOD-2SG
'I watched movies/did movie watching yesterday, you should watch them too.'

b. Dün bir film$_i$ seyret-ti-m, o-nu$_i$ sen de
yesterday one film watch-PAST-1SG that-ACC you too
seyret-meli-sin.
watch-MOD-2SG
'I watched a movie yesterday, you should watch it too.'

It seems that no entity is introduced into the domain of discourse by the presence of the bare N in (8a); however, the Det + NP in (8b) can serve as antecedent for another NP.

2.4 Aspectual Properties

The internal argument is given an important role in the aspectual structure in Tenny 1994.[5] Among the various arguments of a verb, only the direct object can measure out the event by marking the temporal terminus.[6] However, the aspectual interpretation of a sentence may be shifted by the mass or count properties of the internal argument. For instance, mass nouns and bare plural objects in English lead to an atelic interpretation. The telic/atelic alternation is a result of the properties of the internal argument in Turkish as well, as observed in Aydemir 2002. If a bare N occupies preverbal position, the sentence yields an atelic interpretation, as in (9a). If the sequence Det + NP occupies that position, the interpretation is telic, as in (9b).

(9) a. Ali (bir saat boyunca)/(*bir saat-te) çay iç-ti.
Ali (one hour along)/(one hour-LOC) tea drink-PAST
'Ali drank tea (for an hour)/(*in an hour).'
b. Ali (bir saat-te) bir (bardak) çay iç-ti.
Ali (one hour-LOC) one glass tea drink-PAST
'Ali drank a (glass of) tea (in an hour).'

2.5 The Use of the Plural Morpheme

The use of the plural morpheme *-lAr* also gives a clue to the difference between the two nonspecific indefinites.[7] Where the plural morpheme surfaces, the determiner *bazı* 'some' may also be present in the NP, as in (10).[8]

(10) Bu sabah (bazı) makale-ler oku-du-m.
this morning some article-PL read-PAST-1SG
'I read some articles this morning.'

The occurrence of the determiner may suggest that a noun with the plural morpheme *-lAr* constitutes a phrasal category. We can test this

[5] The role of the object NP in the telic interpretation of a sentence is also observed by Dowty (1991) and Smith (1991), among others.

[6] Tenny (1994) introduces three canonical ways that an argument may measure out an event: the internal argument of an incremental theme verb is created or consumed over time, the internal argument of a change-of-state verb undergoes some change in a property over time, and the internal argument of a route or path-object verb provides a gradient along which the event is measured.

[7] The vowel in the plural morpheme *-lAr* can alternate between *-ler* and *-lar* because of vowel harmony.

[8] It seems that for some native speakers (including me), (10) is better with the determiner *bazı* 'some'. For many others, the sentence without the determiner is also acceptable.

observation by using the (Det) + NP + *lAr* sequence in the same structures where the Det + NP sequence occurs to see if they pattern the same way.

When the sequence NP + *lAr* is present in preverbal position, it blocks the modifier from modifying the verb, as shown in (11) (parallel to (5b) and (6b)).

(11) Bügün-e kadar hep hızlı araba-lar kullan-dı-m.
today-DAT until always fast car-PL use-PAST-1SG
'I have always driven fast cars up to now.'

Ellipsis of Det + NP + *lAr* is grammatical in (12) (similar to (7c)).[9]

(12) Dün ilginç film-ler seyret-ti-m, san-a
yesterday interesting movie-PL watch-PAST-1SG you-DAT
da seyret-me-n-i tavsiye ed-er-im.
too watch-NOM-AGR.2SG-ACC recommend-AOR-1SG
'I watched interesting movies yesterday, I recommend you to watch (them) too.'

The Det + NP + *lAr* sequence can serve as the antecedent for another NP, as in (13) (parallel to (8b)).

(13) Dün ilginç film-ler seyret-ti-m,
yesterday interesting movie-PL watch-PAST-1SG
(on-lar-ı) sen de seyret-meli-sin.
that-PL-ACC you too watch-MOD-2SG
'I watched interesting movies yesterday, you should watch those too.'

Sentences (11), (12), and (13) show that the (Det) + NP + *lAr* sequence is the plural form of the Det + NP sequence. However, the bare Ns cannot take the plural morpheme.

2.6 Specification of Number

The preverbal bare N in Turkish is unspecified for number. Therefore, singular or plural interpretation of the bare N is not available. The only entailment sentence (14) yields is that Ali was engaged in book reading today. No information is available about the number of books that Ali read.[10]

[9] Examples (12) and (13) were suggested by an *LI* reviewer.

[10] Sentence (i) can be interpreted as saying that more than one fly was killed.

(i) Bütün gün sinek öl-dür-düm.
all day fly die-CAUS-PAST.1SG
'I killed flies all day.'

The plural interpretation comes from the event type. As an achievement verb, the verb *öldürmek* 'kill' describes a telic event, and if I state that I engage in fly killing all day, my statement is interpreted as referring to multiple killing events. This multiple (repetitive) event interpretation is not available with activity verbs like the one in (14).

(14) Ali bütün gün kitap oku-du.
Ali all day book read-PAST
'Ali read books all day.'

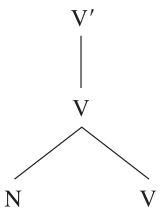
However, singular/plural interpretation is directly available when a phrasal category occupies preverbal position.[11]

(15) a. Ali bugün bir makale oku-du.
Ali today an article read-PAST
'Ali read an article today.'
b. Ali bugün bazı ilginç makale-ler oku-du.
Ali today some interesting article-PL read-PAST
'Ali read some interesting articles today.'

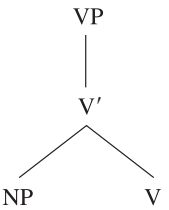
3 Difference in Syntactic Positions

From the evidence in section 2, I conclude that the preverbal bare N and the sequence Det + NP occupy two different syntactic positions in Turkish. I propose that the preverbal bare N forms a complex predicate with the verb[12] and that the complex predicate belongs to the lexical category V. This complex predicate is formed before it shows up in syntactic computation, as illustrated in (16a), and consequently the bare N does not occupy a syntactic argument position in syntax. On the other hand, the presence of a weak determiner (as discussed in Milsark 1974) or of the plural morpheme *-lAr* indicates that there is a direct object of phrasal category. Therefore, these NPs are true syntactic arguments and occupy object position in syntax, as shown in (16b).

(16) a.



b.



With the analysis proposed here, we can easily account for the difference in the syntactic and semantic behavior of the bare N and the object NP presented in section 2.

In section 2.1, we saw that modifiers like *kötü* 'bad' or *iyi* 'good' preceding the bare N as in (5a) and (6a) can be interpreted as modifying the event described by the verb. The adverbial modification reading

[11] I assume here that interpretation as a singular/plural noun is available only when the N occurs within a functional projection (DP or possibly NumP). Research into the nature of this functional projection is in progress.

[12] Similar proposals can be found in Swift 1963 and Knecht 1986, where the sequence of incorporated noun and verb is considered to be a compound.

is possible only if the modifier occurs preverbally. Given the complex predicate (N + V compound) analysis, the explanation is straightforward. The modifier occupies preverbal position in (5a) and (6a), preceding the entire N + V compound. When a phrasal category occupies object position as in (5b) or (6b), the modifier is not preverbal and can only be interpreted as an adjective within that NP, modifying the head noun.

The bare N is not a constituent, but the N + V compound is. This accounts for the ungrammaticality of (7a) in section 2.2, with ellipsis of a bare N, and the grammaticality of (7b), with ellipsis of a compound. The ellipsis of the object NP in (7c) also creates no problem since this NP is an independent constituent. Even in (7d), where the NP and the verb are both dropped, the ellipsis can be interpreted as saying that the book is being recommended since the object NP is an independent constituent.

We can also derive the fact that the bare N in (8a) in section 2.3 is not available for coreference, since there is no individual-denoting syntactic object that can serve as an antecedent for coreference. The interpretation of the bare N is part of the interpretation of the predicate, and the N + V compound describes an event. However, the NP in (8b) is a syntactic object and therefore denotes an individual and constitutes a potential antecedent.

The proposed analysis also explains the data with respect to aspectual properties in section 2.4. In fact, the analysis provides a syntactic explanation for the atelic interpretation of sentences like (9a). Since the bare N in (9a) is not in direct object position, it cannot measure out the event and results only in an atelic interpretation. However, the direct object in (9b) measures out the event and the reading of this sentence is telic.

In section 2.5, we saw that the presence of the plural morpheme implies a phrasal category. That is, the Det + NP sequence, being a syntactic argument, can take the plural morpheme, whereas a bare N cannot. This might be the result of the opacity of the bare N to grammatical operations like plural inflection because it is part of the complex predicate.

Complex predicate formation seems very productive in Turkish and involves many verb types including light verbs (e.g., *etmek, yapmak* 'do') and cognate object verbs (e.g., *örgü örmek* 'knit', *dikiş dikmek* 'sew').[13] A detailed discussion of the level of grammar where

[13] Focus particles in Turkish (e.g., *bile* 'even' and *mI* 'question particle') do not seem to follow the generalization that no lexical item intervenes between the bare N and the V (Erguvanlı-Taylan 2001). The following sentences containing the question particle may seem to counterexemplify the proposed analysis of complex predicates. The question particle *mI* can occur in postconstituent position after each lexical head in a sentence and focuses the question on that constituent.

the complex predicate is formed is beyond the scope of this squib. However, some accounts are already available. A syntactic view of lexical argument structure has been proposed by Hale and Keyser (1993). They claim that derivation of this structure also involves syntactic operations (e.g., head movement) and that these operations are subject to syntactic principles (e.g., the Head Movement Constraint and the Empty Category Principle). Another possible account comes from research by Williams (1997). His analysis posits two sorts of complex predicates, lexical and syntactic. He proposes a lexical rule to form structures like *wipe clean* and *make clear* in English. An important property of this type of complex predicate is that neither element making up the predicate is syntactically complex (neither includes phrasal structure).

Since discussion of the nature of complex predicate formation and the level of grammar at which it takes place is not relevant to present purposes, I will not choose one account over the other, and I leave such discussion for further studies.

4 Conclusion

This squib provides evidence that preverbal bare Ns in Turkish do not behave like phrasal categories. It also provides an analysis that explains the contrast in the syntactic and semantic behavior of the phrasal and nonphrasal categories. The analysis suggests that the bare N and the V form a complex predicate and that the bare N does not occupy object position in syntax. The N in Turkish can function as a true object only when it occupies a functional projection (see also footnote 11). I hope the findings in this squib will contribute to our understanding of indefinites and the internal structure of objects and VP.

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(i) a. Zeynep şiir mi yaz-dı?
Zeynep poem PARTICLE write-PAST
'Zeynep wrote POEMS?'
b. Zeynep mi şiir yaz-dı?
'ZEYNEP wrote poems?'
c. Zeynep şiir yaz-dı mı?
'Did Zeynep write poems?'

Only (ic), where the particle takes scope over the whole sentence, is equivalent to a yes-no question in English. (ia) and (ib) can only be translated into English with contrastive stress on the constituent yielding the focused reading.

Although too little is known about the properties of these focus particles, they do show up freely even inside idiomatic expressions such as *göz atmak* 'glance', *namaz kılmak* 'worship', and *ders çalışmak* 'study'. This suggests that the focus particles can be freely inserted even inside a lexical chunk and therefore pose no problem to the analysis I am proposing.

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CONDITION A AND SCOPE RECONSTRUCTION

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It is well known that in certain environments the scope of a moved quantifier phrase can be determined at either its premovement position (''scope reconstruction'') or its postmovement position (''surface scope''). Thus, the familiar ambiguity of (1) results from two choices for the scope of the moved QP. Under scope reconstruction, the scope of the moved existential QP is the sister of the premovement position (i.e., the sister of *t,* [to win the lottery]), while under surface scope, it is the sister of the postmovement position (i.e., [is likely *t* to win the lottery]). The two scope possibilities yield different semantic interpretations, corresponding to the paraphrases in (2).

(1) Someone from New York is likely *t* to win the lottery.

(2) a. It is likely that there will be someone from New York who wins the lottery.
b. There is someone from New York who is likely to win the lottery.

The ambiguity of (3) is commonly analyzed in similar terms, once it is realized that the moved *wh*-phrase involves pied-piping of an existential quantifier. This existential quantifier (*n-many people,* with *n* a degree variable bound by the *wh*-operator) has two possible scopes ([John is likely to hire *t*], [to hire *t*]), leading to two interpretations, corresponding to the two paraphrases in (4).

(3) How many people is John likely to hire *t*?

(4) a. What is the number *n* such that John is likely to hire *n* many people?
b. What is the number *n* such that there are *n* many people that John is likely to hire?

While the existence of the phenomenon is hardly in doubt, the underlying mechanism is very much in contention. Two kinds of approaches have been pursued. Under one approach, which we can call *syntactic reconstruction,* these ambiguities result from the availability of two different syntactic representations (henceforth *logical forms, LFs*). The choice of scope for the QP under this approach is determined directly by its position in the LF: specifically, the QP takes its sister as its scope. This entails that scope reconstruction requires LFs in which the QP does not appear in its surface position but rather occupies a premovement position.

(5) *Syntactic reconstruction*
a. is likely [[someone from New York] [to win the lottery]]
b. wh_1 [John is likely [[n_1 many people]$_2$ [to hire t_2]]]

The alternative approach, which we will call *semantic reconstruction,* assumes that QPs are always interpreted in their postmovement posi-

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tions. The choice between scope reconstruction and surface scope under this approach is determined by the semantic types of various constituents (traces, in versions of the approach that assume their existence, or alternatively, various predicates[1]).

An argument in favor of syntactic reconstruction has been presented based on a correlation between scope reconstruction and Condition C of the binding theory. This correlation was claimed to follow under syntactic but not semantic reconstruction. (See Lebeaux 1990, Heycock 1995, Sportiche 1996, 2001, Romero 1997, Fox 1999, 2000.) The argument, however, has been challenged by Sharvit (1999) and Sternefeld (2001), who attempt to derive the correlation under semantic reconstruction.[2] It is therefore important to find additional empirical considerations that might distinguish between the two approaches.

The goal of this squib is to argue, building partially on previous literature, that Condition A of the binding theory can serve as an additional testing ground for syntactic versus semantic reconstruction. To set the stage, consider a configuration such as (6a) in which Condition A is violated because NP_1 is too distant from the anaphor to serve as its antecedent (e.g., (6b)).

(6) a. *[. . . NP_1 . . . [*Local binding domain* . . . [$_{NP_2}$ . . . *anaphor*$_1$ . . .] . . .]]

b. *I asked [John and Mary]$_1$ if Bill liked [$_{NP_2}$ pictures of each other$_1$].

It is well known that movement of NP_2 can change this state of affairs.

(7) a. [. . . NP_1 . . . [$_{NP_2}$ . . . *anaphor*$_1$ . . .] . . . [*Local binding domain* . . . t_2 . . .]]

b. I asked [John and Mary]$_1$ [$_{NP_2}$ which pictures of each other$_1$] Bill liked t_2.

With this background in mind, we can spell out a clear prediction made by the syntactic approach to reconstruction: under the scope-reconstructed interpretation of a sentence with a surface representation like (7a), Condition A should be violated, since the LF would actually fit the scheme shown in (6a) and not that in (7a).[3] Therefore, (8) should hold if the syntactic approach to reconstruction is correct.

[1] See, among others, Sternefeld 2001 for an example of the first version, and Jacobson 1999, 2000 for the latter.

[2] Sharvit and Sternefeld appeal to Reinhart's (1983) theory of Condition C, under which semantic scope (specifically, the option for variable binding) determines whether or not Condition C is violated. However, see Fox 2000: 150n for questions raised by this kind of proposal.

[3] This prediction is made under the assumption that the binding theory constrains LFs. If the prediction is correct, that assumption will be supported (along with syntactic reconstruction). Independent evidence for the assumption, based on the discovery of environments in which covert movement feeds Condition A, is reported in Fox 2000:196–199 and Nissenbaum 2000:143–148.

(8) *Prediction under syntactic reconstruction*
In the structural configuration (7a), scope reconstruction should be impossible.

This prediction is made by the syntactic approach to reconstruction but, as far as we can see, not by the semantic approach.[4] If it can be verified, we would therefore have an argument in favor of syntactic reconstruction.[5]

1 Preliminary Evidence: Chomsky 1993

Consider the contrast in (9), based on Chomsky 1993.[6]

(9) a. I asked John and Mary which pictures of each other Bill liked.
b. *I asked John and Mary which pictures of each other Bill took.

Chomsky accounts for this contrast under the assumption that *take a picture* is an idiom and therefore the *wh*-phrase must be reconstructed (an option that is available to him given that traces are copies). So we might take the contrast in (9) as preliminary evidence that the prediction in (8) is correct. However, Chomsky's account of the contrast has been challenged. Most recently, Runner (2002) argues that the interpretation of the idiom in (9b) does not require reconstruction and that therefore Condition A is not a valid test of LF structure. (Among the arguments is the availability of antecedent-contained deletion constructions: *John took every picture that Bill did.*) We think that Runner's critique warrants close attention. But this is beyond the scope of this squib. Instead, we would like to present evidence for (8) that is not subject to Runner's objections. To the extent that the evidence is real, it will argue that whether or not Runner is right about (9), Condition A is sensitive to LF structure and can be used to support the syntactic view of reconstruction.[7]

[4] If Condition A receives its standard syntactic definition, (8) is not predicted under semantic reconstruction. However, one might wonder whether there is a way to derive (8) in a system that assumes semantic reconstruction by modifying Condition A. At the moment, we cannot think of a natural way to achieve this result. Note that Jacobson (2000:128) assumes, following Pollard and Sag (1992) and Reinhart and Reuland (1993), that the anaphors in (7) are not subject to the relevant condition on anaphor binding. See section 3 below.

[5] Sportiche (2001) argues that the prediction does not hold (although for other reasons he assumes the syntactic approach to reconstruction). We respond to his arguments in section 3.

[6] Chomsky uses examples in which the antecedent for the reflexive is the matrix subject.

(i) John and Mary asked which pictures of each other Bill took.

We have found that some speakers feel the contrast in (9) to be sharper. This is possibly related to the discussion in section 3.

[7] Another challenge to Chomsky's account of the contrast in (9) was raised by Safir (1999) and Sportiche (2001). We discuss that challenge in section 2.

2 New Evidence

Consider the prediction of syntactic reconstruction, (8), in the case of *how-many* questions such as (3). In particular, consider the following example:

(10) I asked the boys$_1$ how many pictures of each other$_1$ Mary is likely to see.

Syntactic reconstruction predicts that this sentence should not be ambiguous in the way that (3) is. In particular, the scope-reconstructed interpretation should be impossible.

(11) a. I asked the boys$_1$
wh_2 [[n_2 many pictures of each other$_1$]$_3$
[$_{Local\ binding\ domain}$ Mary is likely [to see t_3]]]
I asked (each of) the boys what is the number *n* such that there are *n* pictures of the other boys and Mary is likely to see those pictures.

b. *I asked the boys$_1$
wh_2 [$_{Local\ binding\ domain}$ Mary is likely
[[n_2 many pictures of each other$_1$]$_3$ [to see t_3]]]
I asked (each of) the boys what is the number *n* such that Mary is likely to see *n* pictures of the other boys?

In order to see whether the prediction is correct, one needs to know how to tease apart the two potential interpretations. The most straightforward way is to consider various scenarios for which the two sentences would have different truth values. We think that this strategy can be employed and would yield the predicted results. However, the strategy is fairly involved and we will try to bypass it here, building on a paradigm developed by Heycock (1995) in a different context. Consider (12).

(12) How many ideas is John likely to have?

Of the two potential interpretations, (12) has only the scope-reconstructed interpretation (13a). Surface scope (paraphrased in (13b) is incompatible with the semantics of the VP of creation [have ideas]: surface scope presupposes the (possible) existence at time *t* of ideas that John is going to have (i.e., bring into existence) at some time later than *t*.

(13) a. What is the number *n* such that John is likely to have *n* ideas?

b. #What is the number *n* such that there are *n* ideas and John is likely to have those ideas?

In light of the fact that such sentences force scope reconstruction, they can provide the basis for a more robust test of the prediction stated in (8). Consider what happens when we add, to the reconstructing QP, an anaphor that can be bound only in the raised position to satisfy

Condition A. The (a) examples in both (14) and (15) serve as relevant test cases.

(14) a. I asked John how many ideas about himself Mary is likely to {hear about/*have}.
b. I asked John how many ideas about him Mary is likely to have.

(15) a. I asked the boys how many jokes about each other Mary is likely to {retell/*invent}.
b. I asked the boys how many jokes about them Mary is likely to invent.

In both of the (a) examples, an ordinary (noncreation) predicate in the embedded clause is shown alongside a creation predicate for comparison. We believe that the predicted contrasts hold rather sharply. The (b) examples serve as controls, showing that when Condition A is not a factor (since the reflexives are replaced with pronouns), the scope-reconstructed interpretation forced by creation predicates is available.[8]

This seems to be a reasonable argument in favor of syntactic reconstruction. Syntactic reconstruction predicts that reconstruction should be impossible in the (7a) configuration. The status of the unacceptable versions of (14a) and (15a) follows under Heycock's (1995) assumption that creation verbs force reconstruction. However, an alternative explanation is proposed for the relevant facts by Safir (1999), which we will present with a slightly different implementation. Specifically, the explanation builds on the suggestion that NPs have internal PRO subjects and that subjects of creation verbs obligatorily bind this PRO.[9] If this suggestion is correct, the status of the sentences in (14) and (15) would be explained independently of whether there is reconstruction (along the lines of Huang's (1993) explanation for obligatory reconstruction effects in predicate fronting). This is shown by the following potential LFs in which there is no syntactic reconstruction; Condition A is violated just in case the PRO subject internal to the moved NP is obligatorily controlled by the subject of the embedded verb (i.e., just in case the embedded verb is a creation verb).

[8] We would also like to see whether the prediction in (8) holds in cases of A-movement. The judgments, though subtle, seem to us to go in the right direction.

(i) Kunstler warned his clients that many unpleasant rumors about them are expected by the judge to be concocted in the coming months.

(ii) Kunstler warned his clients that many unpleasant rumors about each other are expected by the judge to be {made public/??concocted} in the coming months.

[9] See Chomsky 1986, Williams 1985, 1987, Higginbotham 1983. Safir (1999) actually assumes a version of this proposal in which the NP-internal subject is a trace rather than PRO.

(16) a. *I asked John [how many PRO_1 ideas about himself] $Mary_1$ is likely to have.
b. I asked John [how many (PRO_2) ideas about himself] $Mary_1$ is likely to hear about.

We would therefore like to have tests for syntactic reconstruction that are not subject to this confound. One such test is based on *there* constructions, which are subject to the definiteness effect. This effect requires that a weak NP be present in the LF within the c-command domain of the expletive. As Heim (1987) and Frampton (1991) have argued, this yields obligatory reconstruction in *how-many* questions of the sort in (17b) (compare with (17a)).

(17) a. How many books does Mary think are in the library?
b. How many books does Mary think there are in the library?

Under the syntactic approach to reconstruction, (17a) is ambiguous because it corresponds to two legitimate LFs, shown in (18). (17b), on the other hand, has only one legitimate LF (as shown in (19)); the surface scope LF is blocked because it violates the definiteness effect.

(18) *Two LFs for (17a)*
LF_1: $[wh]_1$ Mary thinks [[n_1 many books] are in the library]
What is the number *n* such that Mary thinks there are *n* many books in the library?
LF_2: [*wh* many books]$_1$ Mary thinks [t_1 are in the library]
What is the number *n* such that there are *n* many books and Mary thinks those books are in the library?

(19) *Only one LF for (17b)* (LF_2 violates the definiteness effect)
LF_1: $[wh]_1$ Mary thinks [there are [t_1 many books] in the library]
What is the number *n* such that Mary thinks there are *n* many books in the library?
*LF_2: [*wh* many books]$_1$ Mary thinks [there are t_1 in the library]
What is the number *n* such that there are *n* many books and Mary thinks those books are in the library?

This reasoning yields another test for the prediction in (8), which seems to be verified.

(20) a. I asked John how many books about him Mary thinks there are in the library.
b. I asked John how many books about himself Mary thinks {are in the library/*there are in the library}.

In (20a), Condition A is not at stake and the reconstruction needed to satisfy the definiteness effect is available. In (20b), by contrast, Condition A blocks reconstruction and therefore the variant that is subject to the definiteness effect (the one with an expletive) is unacceptable. The alternative explanation for the facts in (14) and (15) is not available

for the facts in (20). These facts therefore provide an argument for syntactic reconstruction.

A second argument in favor of syntactic reconstruction can be made by combining anaphors and ordinary bound variables in a way that would yield a conflict if the syntactic approach to reconstruction is correct. Specifically, consider a structure in which scope reconstruction is forced by embedding, in a moved NP, a pronoun that can be interpreted as a bound variable only in the premovement position. If the syntactic approach to reconstruction is correct, the required (scope-reconstructed) LF should not allow, in the same NP, an anaphor that can be bound only in the moved position (by a matrix antecedent).

Consider (21a), in the two versions given.[10] In this sentence, scope reconstruction is required for variable binding. Under syntactic reconstruction, it is predicted that Condition A should be violated in the variant that contains an anaphor. In other words, the fact that only the variant with the pronoun is acceptable is predicted.

(21) His aides should have explained to President Clinton$_1$ . . .
  a. . . . [what kinds of pictures of {him$_1$/*himself$_1$} and her$_2$ baby] no mother$_2$ wants to see.
  b. . . . [what kinds of pictures of himself$_1$ and her$_2$ baby] Mrs. Jones$_2$ wants to see.

Consider next (21b). Here, the R-expression *Mrs. Jones* replaces the quantifier in the embedded clause, obviating the need for variable binding. Consequently, scope reconstruction is not required and Condition A can be satisfied.

3 A Potential Confound: Logophoric Uses of Reflexives and Reciprocals

In sections 1 and 2, we have presented various arguments that scope reconstruction can have consequences for Condition A, which we took as evidence for the syntactic approach to reconstruction. In this section, we would like to discuss conflicting evidence presented by Brody (1995) and Sportiche (2001). Consider (22) (Sportiche's (92)).

(22) a. How many songs about each other did John and Mary say Bill should compose?
  b. John and Mary wonder how many songs about each other Bill should compose.

In these examples, a creation verb in the embedded clause forces scope reconstruction, which apparently has no consequences for Condition A. This fact conflicts with the data we presented in sections 1 and 2, and in particular with examples (14) and (15). This conflict does not seem to be the result of interspeaker variations in judgment; our infor-

[10] We thank Alan Munn (personal communication) for suggesting this paradigm as an improvement over one in an earlier draft.

mants agree with the judgments Sportiche reports for (22) as well as with the judgments we indicated for (14) and (15). We would therefore like to understand the difference between the two cases.

An obvious structural difference between (14) and (15) on the one hand and (22) on the other is that in the latter, but not in the former, the antecedent for the anaphor is a subject.[11] Evidence that this is a relevant difference emerges when we compare (22) with (23).

(23) a. *How many songs about each other did you tell John and Mary Bill should compose?
b. *I told John and Mary how many songs about each other Bill should compose.

We do not fully understand the source of this difference, but we would like to make a tentative proposal and a corroborating observation. Consider the hypothesis advanced by Reinhart and Reuland (1993) and Pollard and Sag (1992) that anaphors are not subject to the binding theory when they are arguments of (subjectless) nominal predicates. Instead, they are subject to various discourse conditions on logophoricity (we will call this hypothesis the *logophoricity hypothesis*). Under this hypothesis, an anaphor that is exempt from the binding theory (a logophor) is licensed only if it refers to a sufficiently salient individual (or is bound by an NP that quantifies over such individuals). We will call this condition the *Logophor-Licensing Condition.* A precise definition of salience has not been provided in the literature, but notions like ''subject of consciousness'' and ''point of view'' have been argued to be relevant.

This hypothesis could account for Sportiche's facts, but not, it seems to us, for the correlations discussed in sections 1 and 2. So we would like to consider a modified version of the logophoricity hypothesis. In particular, assume that anaphors in argument positions of subjectless NPs are optionally (but not obligatorily) exempt from the binding theory. An anaphor in the relevant position (inside a subjectless NP) can therefore be licensed in two ways: either by the binding theory (Condition A) or by logophor licensing.

This can account for all the data we have looked at, if we assume that subjects (but not objects) of predicates like *say, believe, ask,* and *tell* refer to individuals that are salient enough for anaphors to corefer with, thereby satisfying the Logophor-Licensing Condition (see Yang 1991). This assumption fits with the general property of these predicates that their complement clauses express propositions that (in possible-worlds semantics) are evaluated at worlds characterized with appeal to the perspective/point of view of the subject argument (and not the object). (For example, *John told Mary that S* expresses a proposition that is true if and only if *S* is true in every world compatible with

[11] The example discussed by Brody (1995:134) is like Sportiche's (and unlike our (14)/(15)) in having the matrix subject as the binder of the anaphor. See also footnote 6.

what John said to Mary; no requirement exists concerning Mary's attitudes—for example, whether or not she understood.)

Consider again examples like (22), the cases discussed by Brody and Sportiche, in which scope reconstruction appeared to have no consequences for Condition A. These cases can now be accounted for even under the syntactic approach to reconstruction. While it is true that reconstruction yields an LF in which the anaphor is too distant from its antecedent for Condition A to be satisfied, the anaphor is an argument of a subjectless NP and can also be licensed by the Logophor-Licensing Condition. This condition is met, since the anaphor is coindexed with the matrix subject, which (by the assumption stated in the previous paragraph) is salient in the relevant respect.

The argument for syntactic reconstruction based on the cases in section 2 still holds. Those cases are similar in that syntactic reconstruction yields structures in which the antecedents are too distant for Condition A to be satisfied. However, in these cases, no loophole is provided by the Logophor-Licensing Condition, since the ostensible antecedent (the object rather than the subject) is not salient by the relevant criteria.[12]

The following observation corroborates the claim that examples like (22) are irrelevant to the discussion of scope reconstruction and Condition A. Consider (24)–(25), in which there is no movement (hence, reconstruction is not at issue). Long-distance binding of the anaphor is much more natural in the (a) examples than in the (b) examples.[13]

(24) a. ?John and Mary think Bill should compose five songs about each other.
b. *I told John and Mary that Bill would compose five songs about each other.

(25) a. ?John and Mary wonder whether Bill composed any songs about each other.
b. *I asked John and Mary whether Bill composed any songs about each other.

This contrast, too, follows from our modified version of logophoricity. The reciprocals in (24)–(25) are patently too distant from their antecedents for Condition A to be met. However, they are eligible for logophor licensing. The Logophor-Licensing Condition is satisfied in the

[12] It is of course predicted that if there are predicates whose semantics appeal to the attitude of the object argument rather than the subject, the Logophor-Licensing Condition would be satisfied regardless of scope reconstruction. This seems to us to be the case.

(i) Bill's behavior told John and Mary how many songs about each other he is likely to compose. (*cf.* *Bill told John and Mary how many songs about each other he is likely to compose.)

[13] We thank two anonymous reviewers for pointing out the importance of this comparison.

(a) but not the (b) examples given the assumption that subjects (and not objects) are suitable referents for logophors.[14]

If this reasoning is correct, we have identified a potential source of noise for our experiment, namely, the fact that anaphors can be licensed by a condition other than Condition A. We have argued that this condition can be factored out and that when it is, the predictions made by the syntactic approach to reconstruction are verified.

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[14] In cases where the object but not the subject is the attitude holder (see footnote 12), the predicted pattern similarly emerges for logophor licensing without movement.

(i) ?Bill's behavior told John and Mary that he would compose several songs about each other. (*cf.* *Bill told John and Mary that he would compose several songs about each other.)

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Consciousness, Backward Coreference, and Logophoricity

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Contrasts like those between the (a) and (b) sentences of (1)–(7) suggest that Self-anaphors are subject to a coreference requirement that operates in addition to binding theory.[1]

I thank Noam Chomsky, Danny Fox, Esther Torrego, Ken Wexler, and two anonymous *LI* reviewers for their helpful comments and discussion.

[1] I have found that a minority of speakers do not fully accept (4a) and (7a), and that a few speakers do not fully accept any of the (a) cases in (1)–(7); however, everyone I have consulted agrees that, throughout all these examples, the (a) cases are markedly better than the (b) cases. I believe that any slight degradedness, in any of these cases, is due to factors outside the scope of this squib.

(1) a. {That book about herself$_i$}$_A$ {hit Sara$_i$}$_B$.
b. *{That book about itself$_i$}$_A$ {hit the Hope diamond$_i$}$_B$.

(2) a. {That picture of herself$_i$}$_A$ {pushed Sara$_i$ off of the log}$_B$.
b. *{That picture of itself$_i$}$_A$ {pushed the Hope diamond$_i$ off of the display case}$_B$.

(3) a. {That story about herself$_i$}$_A$ {caused Sara$_i$ to become famous}$_B$.
b. *{That story about itself$_i$}$_A$ {caused *War and Peace*$_i$ to become famous}$_B$.

(4) a. {Lightning striking herself$_i$}$_A$ {caused Sara$_i$ to get hot}$_B$.
b. *{Lightning striking itself$_i$}$_A$ {caused the car$_i$ to get hot}$_B$.

(5) a. {That picture of himself$_i$}$_A$ {caused folks to think they should avoid Bill$_i$}$_B$.
b. *{That picture of itself$_i$}$_A$ {caused folks to think they should avoid the cave$_i$}$_B$.

(6) a. I put {that picture of herself$_i$}$_A$ {next to Sara$_i$}$_B$.
b. *I put {that picture of itself$_i$}$_A$ {next to the Hope diamond$_i$}$_B$.

(7) a. They saw {that picture of herself$_i$}$_A$ {next to Sara$_i$}$_B$.
b. *They saw {that picture of itself$_i$}$_A$ {next to the rock$_i$}$_B$.

It seems clear that these contrasts cannot be due to binding principles, since in no case does one coreferring element c-command the other. Moreover, on standard assumptions the (a) and (b) sentences in each of (1)–(7) are structurally identical to each other, so that any binding-theoretic treatment would yield identical judgments, not contrasting ones, for the members of each pair. This squib proposes a principle to account for the noted contrasts, comments on ways this principle differs from principles of binding, and discusses implications it may have for theories of logophoricity.

1 Consciousness and Coreference

I believe the contrasts in (1)–(7) are due to a coreference requirement on Self-anaphors, whose first, overly broad formulation I give as *Principle E* in (8).

(8) *Principle E* (nonfinal)
A Self-anaphor must corefer with an expression whose referent typically possesses consciousness.[2]

[2] I use the term *typically* because, as an anonymous reviewer points out, sentences like the (a) cases of (1)–(7) are acceptable even if the referent of the antecedent is assumed to be asleep or comatose. (See also Minkoff 2003, where a similar point is demonstrated with respect to coreference involving pronouns.)

Also, I use the term *consciousness,* as opposed to *animacy,* so as to exclude plants, which seem to me to be unacceptable referents in the kinds of sentences at issue, as demonstrated in (i).

(i) *That picture of itself$_i$ hit [the bush across the street]$_i$.

Principle E correctly accounts for the contrasts in (1)–(7). On the one hand, in each of the (a) examples, the referent typically possesses consciousness, so that Principle E is satisfied, and the result is acceptable. On the other hand, in each of the (b) examples, the referent lacks consciousness, so that Principle E is violated, and the result is unacceptable.

2 Consciousness, Coreference, and Binding

Of course, Principle E as formulated in (8) cannot possibly hold in all circumstances, since there exist sentences such as those in (9)–(10), in which Self-anaphors happily corefer with expressions regardless of whether their referents typically possess consciousness. In its current formulation, Principle E would wrongly predict the same contrast for the sentences in (9)–(10) as it does for those in (1)–(7), deeming (9a) and (10a) acceptable, but (9b) and (10b) not so.

(9) a. Joshua$_i$ destroyed himself$_i$.
b. The machine$_i$ destroyed itself$_i$.

(10) a. Joshua$_i$ took a picture of himself$_i$.
b. The automatic camera$_i$ took a picture of itself$_i$.

Therefore, I believe Principle E would be more accurately formulated as in (11).

(11) *Principle E* (nonfinal)
A free Self-anaphor must corefer with an expression whose referent typically possesses consciousness.

Now Principle E correctly accounts for the contrasts in (1)–(7) without wrongly extending those contrasts to (9)–(10). On the one hand, the Self-anaphors in (1)–(7) are free, so Principle E applies, making these sentences acceptable only when the referent typically possesses consciousness. On the other hand, the Self-anaphors in (9)–(10) are bound, so here Principle E does not apply, leaving these sentences acceptable regardless of whether or not the referent possesses consciousness.

3 The Backward Coreference Domain

Next, it seems clear that Principle E as formulated in (11) also cannot hold in all circumstances, because there exist sentences like those in (12)–(16), whose Self-anaphors are free, yet which remain unacceptable regardless of whether they corefer with expressions whose referents typically possess consciousness, as in the (a) cases, or do not, as in the (b) cases.

(12) a. *Those books about Sara$_i$ hit (a picture of) herself$_i$.
b. *Those books about the Hope diamond$_i$ hit (a picture of) itself$_i$.

(13) a. *Those stories about Sara$_i$ caused (a book about) herself$_i$ to become notorious.
b. *Those stories about Mt. Everest$_i$ caused (a book about) itself$_i$ to become notorious.

(14) a. *I put those pictures of Sara$_i$ next to (an article about) herself$_i$.
b. *I put those pictures of the Taj Mahal$_i$ next to (an article about) itself$_i$.

(15) a. *Joshua wants herself$_i$ to destroy Sara$_i$.
b. *Joshua wants itself$_i$ to destroy the machine$_i$.

(16) a. *Joshua heard a story about herself$_i$ after seeing Sara$_i$.
b. *Joshua heard a story about itself$_i$ after seeing Mt. Everest$_i$.

Therefore, I propose to modify Principle E once again as in (17), with *backward coreference domain* defined as in (18). Now I believe Principle E accounts for all of the facts in question.[3]

(17) *Principle E*
A free Self-anaphor must corefer with, and be in the backward coreference domain of, an expression whose referent typically possesses consciousness.

(18) X is in the *backward coreference domain* of Y if and only if there exist two nodes A and B such that B is predicated of A, A dominates X, and B dominates Y.

On the one hand, the Self-anaphors in (1)–(7) are in the backward coreference domains of the expressions with which they corefer. This is so in (1)–(5) because the (matrix) VP is predicated of the matrix subject, and this subject and VP dominate the Self-anaphor and coreferring R-expression, respectively; and it is so in (6)–(7) because the PP is predicated of the direct object, and this direct object and PP dominate the Self-anaphor and coreferring R-expression, respectively.

[3] At first glance, the (a) cases in (i)–(iv) might appear to defy Principle E's predictions. After all, in each of these examples, the Self-anaphor is in the backward coreference domain of its coreferring expression and the referent typically possesses consciousness, yet these seem less acceptable than similar sentences in the text. However, the fact is that each of these examples is more acceptable than the non-consciousness-associated (b) case with which it is paired. I believe this contrast arises because Principle E actually functions properly in cases like (i)–(iv), the somewhat degraded status of the (a) cases being due to the interference of some other factor, whether of grammar or of processing.

(i) a. ??The woman who took a picture of himself$_i$ hit Joshua$_i$.
b. *The woman who took a picture of itself$_i$ hit the Hope diamond$_i$.

(ii) a. ??That picture of herself$_i$ landed on the boy who loves Sara$_i$.
b. *That picture of itself$_i$ landed on the boy who loves the Hope diamond$_i$.

(iii) a. ??That picture of herself$_i$ landed on a painting of Sara$_i$.
b. *That picture of itself$_i$ landed on a painting of the Hope diamond$_i$.

(iv) a. ??That picture of herself$_i$ pushed the painting of Sara$_i$ off of the display case.
b. *That picture of itself$_i$ pushed the painting of the Hope diamond$_i$ off of the display case.

(In each example, and throughout this squib, the relevant argument and associated predicate are enclosed in curly brackets labeled *A* and *B,* respectively.) Therefore, when the referents of the coreferring expressions in these sentences typically possess consciousness, the sentences satisfy Principle E, and so are acceptable; and when they do not, the sentences violate Principle E, and so are unacceptable.

On the other hand, the Self-anaphors in (12)–(16) are not in the backward coreference domains of the expressions with which they corefer, since in none of these cases is any node dominating the coreferring R-expression predicated of any node dominating the Self-anaphor. Therefore, all of these sentences violate Principle E, and so are unacceptable regardless of whether the referents possess consciousness.

Further support for the formulation of Principle E in (17) comes from the behavior of sentences like those in (19)–(20).

(19) a. OK/*Joshua saw a picture of herself$_i$ next to Sara$_i$.
b. *Joshua saw a picture of itself$_i$ next to the Hope diamond$_i$.

(20) a. OK/*Joshua saw a clone of herself$_i$ brushing against Sara$_i$.
b. *Joshua saw a picture of itself$_i$ brushing against the Hope diamond$_i$.

These sentences are ambiguous in a certain crucial sense; and each of the two sorts of readings associated with this ambiguity behaves as predicted by Principle E.

On one sort of reading, (19a–b) can mean that the picture is next to Sara or the diamond, as represented in (21); and (20a–b) can mean that the clone or picture is brushing against Sara or the diamond, respectively, as represented in (22). In these instances, there is a node dominating the coreferring R-expression that is predicated of a node dominating the Self-anaphor, and hence the Self-anaphor is within its coreferring expression's backward coreference domain. In this case, when the referent typically possesses consciousness the sentences are acceptable as in the (a) cases, and when the referent does not possess consciousness the sentences are unacceptable as in the (b) cases, all as predicted by Principle E.

(21) a. Joshua saw {a picture of herself$_i$}$_A$ {next to Sara$_i$}$_B$. (The picture was next to Sara.)
b. *Joshua saw {a picture of itself$_i$}$_A$ {next to the Hope diamond$_i$}$_B$. (The picture was next to the Hope diamond.)

(22) a. Joshua saw {a clone of herself$_i$}$_A$ {brushing against Sara$_i$}$_B$. (The clone was brushing against Sara.)
b. *Joshua saw {a picture of itself$_i$}$_A$ {brushing against the Hope diamond$_i$}$_B$. (The picture was brushing against the Hope diamond.)

On the other sort of reading, (19a–b) can mean that Joshua is next to Sara or the diamond, as represented in (23); and (20a–b) can mean that Joshua is brushing against Sara or the diamond, as represented in (24). In these instances, there is no node dominating the coreferring R-expression that is predicated of any node dominating the Self-anaphor, and therefore the Self-anaphor is outside its coreferring expression's backward coreference domain. In this case, regardless of whether the referent typically possesses consciousness, the sentences remain unacceptable, again as predicted by Principle E.

(23) a. *{Joshua}$_A$ saw a picture of herself$_i$ {next to Sara$_i$}$_B$. (Joshua was next to Sara.)
b. *{Joshua}$_A$ saw a picture of itself$_i$ {next to the Hope diamond$_i$}$_B$. (Joshua was next to the Hope diamond.)

(24) a. *{Joshua}$_A$ saw a clone of herself$_i$ {brushing against Sara$_i$}$_B$. (Joshua was brushing against Sara.)
b. *{Joshua}$_A$ saw a picture of itself$_i$ {brushing against the Hope diamond$_i$}$_B$. (Joshua was brushing against the Hope diamond.)

It should be noted that Principle E is distinct from binding-theoretic principles in two significant respects. First, it operates in terms of the structural and semantic relation *in the backward coreference domain of,* rather than in terms of the purely structural relation *c-command.* Second, it is sensitive to an attribute—namely, the consciousness of a referent—that is an aspect neither of syntax nor of linguistic expressions, but rather of entities in the world to which linguistic expressions refer.

4 Logophoricity?

The role that consciousness plays in the coreference contrasts considered above suggests that the phenomenon at issue may involve logophoricity, discussed in works including Abe 1992, Clements 1975, Liu 1999, Minkoff 1994, Sells 1987, and Zribi-Hertz 1989.[4]

However, if logophoricity is what is involved, then that notion must itself be broader than is ordinarily assumed, because the antecedents in sentences made acceptable by Principle E need not have any of the traditionally recognized logophoric roles. For example, consider how the taxonomy of logophoric roles developed in Sells 1987 applies to the antecedents in the (a) sentences in (25)–(27), each of which is acceptable under Principle E.

(25) a. I put a picture of herself$_i$ to the right of Sara$_i$.
b. *I put a picture of itself$_i$ to the right of the stage$_i$.

[4] Note in this connection that Principle E applies even when the Self-anaphor is the direct object of a verb as in (4) in the text, the direct object position being one in which the Self-anaphor is standardly assumed to function as a reflexive and not a logophor (see, e.g., Reinhart and Reuland 1993).

(26) a. I saw a picture of herself$_i$ to the right of Sara$_i$.
b. *I saw a picture of itself$_i$ to the right of the stage$_i$.

(27) a. That picture of himself$_i$ caused John$_i$ to come toward me (due to the weight of it leaning against him).
b. *Those reviews of itself$_i$ caused the movie$_i$ to come out on DVD a month early.

Obviously, none of these antecedents can be a *Source* (for Sells, one who is the intentional agent of a communication) or a *Self* (for Sells, one whose mental state or attitude the content of a proposition describes), since none is an argument of a verb of communication, or of mental attitude or state. Furthermore, consideration of the deictic elements in these examples also demonstrates that none of these antecedents can be a *Pivot* (for Sells, one with respect to whose (space-time) location the content of a proposition is evaluated). First, in (25a) and (26a) it is possible to assume that Sara and I face each other, and that the picture is on the right according to me, but on the left according to Sara, so that the content of the proposition is evaluated with respect to my (space-time) location, not hers; second, in (27a) the content of the proposition involving *come* is evaluated with respect to my (space-time) location, not John's. This discussion makes clear that the dependencies licensed under Principle E are not logophoric in the standard sense, at least not if Sells's taxonomy characterizes the semantic content ordinarily ascribed to logophoric antecedents.

I want to suggest that the dependencies considered in this squib are indeed logophoric, and that logophoricity accordingly is a broader phenomenon than is ordinarily assumed. In particular, I propose that the semantic content that is crucial for the antecedent of a logophoric dependency is that it bear what I shall refer to as a *Protagonist* role, whereby I mean that the speaker must identify with the antecedent's (referent's) potential consciousness.[5] To illustrate, on the reading that makes (25a) acceptable, it is crucial that *Sara* be understood as a Protagonist; that is, the speaker must identify with Sara's potential consciousness.

There exists a set of one-way implicational relations between the roles of Sells's taxonomy, and these extend also to the Protagonist. As Sells's discussion makes clear, an antecedent that is a Source also is a Self, and one that is a Self also is a Pivot, but not the other way around. On reflection, it also is evident that an antecedent that is a Pivot is a Protagonist, but not the other way around. Thus, if my suggestion is on the right track, Protagonist effectively usurps from Pivot the distinction of being the basic logophoric role that is present on all antecedents of logophoric dependencies; and in this case Principle E should be revised once more, as in (28).

[5] Compare the notion ''internal protagonist'' in Sells 1987:456.

(28) *Principle E*
A free Self-anaphor must corefer with, and be in the backward coreference domain of, a Protagonist.

Finally, if the dependencies licensed by Principle E indeed are logophoric, this imposes restrictions on the kinds of syntactic theories that might successfully account for logophoricity. To consider one example, such a determination would rule out a crosslinguistic application of the proposal made by Huang and Liu (2001).

Huang and Liu attempt to reduce logophoric roles to the notion ''*de se*'' (which for them includes a kind of ''virtual'' *de se* aided by the speaker's perspective), and to derive the *de se* semantics of the Chinese long-distance reflexive *ziji* via operator movement of *ziji* ''to the Spec of a CP-type functional category in LF, which identifies itself as the property of a self-ascriber'' (Huang and Liu 2001:177); from this position, *ziji* is subject to predication or ''strong binding'' in Chomsky's (1982, 1986) sense by an appropriate local antecedent, and enters into an operator-variable relation with the trace that it Ā-binds, as shown in (29).

strong binding/ predication	operator-variable relation

(29) Zhangsan$_i$ shuo [ziji$_i$ [Lisi you zai piping t_i le]].
Zhangsan say self Lisi again at criticize self PRT
'Zhangsan said that Lisi was again criticizing him.'

The biggest problem that Huang and Liu's proposal confronts in the current data is that it fails to predict the contrast that sentences like (19a) and (20a) exhibit based upon whether they have meanings like those in (21a) and (22a), or (23a) and (24a). For example, in (19a) Huang and Liu apparently would call for LF operator movement of *herself* to the position indicated in (30), regardless of which meaning the sentence has. Conceivably, their proposal might be modified so that (19a)'s LF structure would be (30) when it has the meaning of (23a), and (31) when it has the meaning of (21a).

(30) [herself$_i$ [Joshua saw a picture of t_i next to Sara$_i$]]

(31) Joshua saw [herself$_i$ [a picture of t_i next to Sara$_i$]]

Obviously, if one assumes the representation in (30) for both meanings, Huang and Liu's proposal cannot predict any contrast in the acceptability of coreference. Furthermore, even if one assumes (30) for the meaning in (23a), and (31) for the meaning in (21a), their proposal still cannot yield the required contrast, because both representations would comply equally well with its key syntactic notions: that is, both representations would yield the required operator-variable relation between the raised logophor and its trace; and either both would permit predication or strong binding between the logophor and the antecedent, or else

neither would do so, depending upon whether c-command is deemed necessary for this relation. Thus, Huang and Liu's proposal seems unable to account for the contrast associated with sentences like (19a) and (20a).

Finally, an additional problem is posed for Huang and Liu's proposal by sentences like (5a), because here LF operator movement of *himself* would leave this item in a position from which it cannot possibly have any local relation, or a command relation of any kind, with its required antecedent, *Bill.*

4 Conclusion

The coreference contrasts presented in this squib are accounted for by Principle E, which is significantly distinct from principles of binding theory. Moreover, these contrasts may involve logophoricity. If they do, then logophoricity must be a broader phenomenon than is ordinarily assumed, and certain restrictions are imposed on the kinds of syntactic theories that might successfully account for it. For example, a crosslinguistic application of the proposal by Huang and Liu (2001) is ruled out.

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Spanish Quirky Subjects, Person Restrictions, and the Person-Case Constraint

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Icelandic quirky subject constructions display person restrictions, which have attracted much attention recently (see, e.g., Anagnostopoulou 2003 for a syntactic analysis, Boeckx 2000 for a morphological analysis, and Sigurðsson 2002 and references therein). The received view is that such restrictions are particular to Icelandic, and Spanish is considered a language with quirky subject constructions free of such restrictions.[1]

This squib has three aims. The first is to identify in Spanish some previously unnoticed quirky constructions with person restrictions reminiscent of Icelandic. The second is to use Bonet's (1991) Person-Case Constraint (PCC) as a preliminary tool to capture the difference in Spanish between quirky subject constructions with person restrictions and the familiar type without person restrictions. The third is to distinguish via the PCC between Spanish and Bulgarian quirky constructions with similar syntax but different person effects.

In section 1, I introduce a class of Spanish quirky constructions with person restrictions. In section 2, I argue that the PCC can capture the formal difference between this new class and the type without restrictions. In section 3, I examine a difference between Spanish and Bulgarian quirky constructions, arguing that it further supports the suggestion made in section 2.

1 Spanish Quirky Subjects and Person Restrictions

I first illustrate person restrictions in Icelandic. The sentences in (1a–c) from Sigurðsson 2002:719–720 show that in the presence of a dative

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[1] In this squib, I adopt the familiar *quirky subject* label as a descriptive term. See Masullo 1993 for differences between Spanish and Icelandic quirky subjects, and Masullo 1992, Fernández Soriano 1999, and Cuervo 1999 for diagnostics of quirky subjects in Spanish. See also Rivero and Sheppard 2003 and Rivero 2003 for different types of quirky subjects in Slavic, including a class without counterparts in Spanish.

subject, a nominative object triggering verb agreement must be 3rd person and cannot be 2nd or 1st.

(1) a. Ég veit að honum líka þeir.
I know that he.DAT like.3PL they.NOM
'I know that he likes them.'
b. *Ég veit að honum líkið þið.
I know that he.DAT like.2PL you.NOM.PL
'*I know that he likes you.'
c. *Ég veit að honum líkum við.
I know that he.DAT like.1PL we.NOM
'*I know that he likes us.'

Many familiar languages lack the above person restriction, and Spanish sentences equivalent to (1a–c) do not display it, as (2a–c) with *gustar* 'like' illustrate. That is, nominative logical objects triggering verb agreement can be 3rd, 2nd, or 1st person in the presence of a dative logical subject. The dative must be obligatorily doubled by a dative clitic glossed *DAT.CL* from now on, which in (2a–c) is 3rd person singular *le.*

(2) a. Yo sé que a Ana le gustan ellos.
I know that Ana.DAT DAT.CL like.3PL they.NOM
'I know that Ana likes them.'
b. Yo sé que a Ana le gustais vosotros.
I know that Ana.DAT DAT.CL like.2PL you.NOM.PL
'I know that Ana likes you.'
c. Yo sé que a Ana le gustamos nosotros.
I know that Ana.DAT DAT.CL like.1PL we.NOM
'I know that Ana likes us.'

The dative in (2a–c), then, does not seem to interfere with finite verb agreement by, roughly speaking, entering into an agreement relation with its person, in contrast to what is suggested for Icelandic. Many verbs behave like *gustar* in (2), so it would seem that person restrictions of the Icelandic type do not exist in Spanish.

However, it has escaped notice that some quirky constructions in Spanish display person restrictions like those in Icelandic, as with *antojar (se)* 'fancy, take a fancy to' in (3). This verb resembles *gustar* 'like' in (2) because it takes (a) a dative subject obligatorily doubled by a clitic, and (b) a nominative object that triggers verb agreement. An important difference between the two, though, is that (3) falls under a person restriction of the Icelandic type, as (4a–c) illustrate. *Antojar (se)* differs from *gustar* because its nominative object must be 3rd person, 2nd or 1st person nominatives being clearly ungrammatical.

(3) A Ana siempre se le antojan los mismos
Ana.DAT always 3.REFL DAT.CL fancy.3PL the same
libros.
books
'Ana always takes a fancy to the same books.'

(4) a. A Ana siempre se le antojan {los mismos
Ana.DAT always 3.REFL DAT.CL fancy.3PL {the same
chicos/ellos}.
guys/they.NOM}
'Ana always takes a fancy to {the same guys/them}.'
b. *A Ana siempre nos le antojamos nosotros.
Ana.DAT always 1PL.REFL DAT.CL fancy.1PL we.NOM
'*Ana always takes a fancy to us.'
c. *A Ana siempre os le antojais
Ana.DAT always 2PL.REFL DAT.CL fancy.2PL
vosotros.
you.NOM.PL
'*Ana always takes a fancy to you.'

Antojar (se) is restricted to dative-nominative patterns, as illustrated in (3)–(4). By contrast, *olvidar (se)* 'forget' can participate in three different case frames: with nominative logical subjects and accusative logical objects as in (5), with nominative logical subjects and PP complements as in (6), or with dative logical subjects and nominative logical objects with verb agreement as in (7). The only pattern with a 3rd person restriction is the last one.

(5) Ana olvidó las llaves de Pedro.
Ana.NOM forgot.3SG the keys of Pedro
'Ana forgot Pedro's keys.'

(6) Ana se olvidó de las llaves de Pedro.
Ana.NOM 3.REFL forgot.3SG of the keys of Pedro
'Ana forgot Pedro's keys.'

(7) A Ana se le olvidaron las llaves de Pedro.
Ana.DAT 3.REFL DAT.CL forgot.3PL the keys of Pedro
'Ana forgot Pedro's keys.'

The nominative in (7) must be 3rd person as in (8a), and 1st or 2nd person nominatives as in (8b–c) are clearly unacceptable.

(8) a. A Ana se le olvidaron {esos
Ana.DAT 3.REFL DAT.CL forgot.3PL {those
chicos/ellos}.
guys/they.NOM}
'Ana forgot {those guys/them}.'
b. *A Ana nos le olvidamos nosotros.
Ana.DAT 1PL.REFL DAT.CL forgot.1PL we.NOM
'*Ana forgot us.'
c. *A Ana os le olvidasteis vosotros.
Ana.DAT 2PL.REFL DAT.CL forgot.2PL you.PL.NOM
'*Ana forgot you.'

An anonymous reviewer notes that the contrast reported for Spanish is absent in Icelandic. Icelandic *gleymast* 'happen to forget', equipped with the middle marker *-st,* resembles Spanish *olvidar se* in (8), as it

takes a dative logical subject and a nominative logical object triggering verb agreement. However, the difference is that the Icelandic construction with *gleymast* shares person restrictions with (1), while Spanish (8) contrasts with (2).

Another relevant verb is *ocurrir (se)* 'imagine, think of' in (9)–(10), which like *antojar se* is restricted to dative subjects and nominative objects. Again, the nominative must be 3rd person, as the contrast between (10a) and (10b) illustrates.

(9) A Ana se le ocurren muchas ideas.
Ana.DAT 3.REFL DAT.CL imagine.3PL many ideas
'Ana has many ideas./Many ideas come to Ana's mind.'

(10) a. A Ana se le ocurrió
Ana.DAT 3.REFL DAT.CL imagined.3SG
{un personaje/ella} para su novela.
{a character/she.NOM} for her novel
'Ana {imagined/thought of} {a character/her} for her novel.'

b. *A Ana nos le ocurrimos nosotros para
Ana.DAT 1PL.REFL DAT.CL imagined.1PL we.NOM for
su novela.
her novel
'*Ana {imagined/thought of} us for her novel.'

In contrast with those in (2), then, the dative-nominative patterns in (3)–(10) may suggest that the dative in Spanish interferes with finite verb agreement, entering into an agreement relation with the person encoded in inflection.

In sum, in Spanish there are two kinds of quirky constructions. The familiar type without person restrictions illustrated with *gustar* 'like' in (2) makes Spanish contrast with Icelandic, and the less familiar patterns illustrated with *antojar (se)* 'take a fancy to', *olvidar (se)* 'forget', and *ocurrir (se)* 'imagine' in (3)–(10) display person restrictions reminiscent of Icelandic. In section 2, I propose that the PCC is a preliminary tool to capture the difference between the two types. The comparison of Spanish and Bulgarian quirky constructions in section 3 further motivates this proposal.

2 The Person-Case Constraint and Quirky Subjects in Spanish

Bonet (1991, 1994) proposes the morphological condition in (11) for combinations of weak elements such as clitics, agreement affixes, or weak pronouns.

(11) *Person-Case Constraint* (PCC) (Bonet 1994:36)
If DAT then ACC-3rd.

In Spanish, the PCC serves for ditransitive contrasts such as the following. On the one hand, *Ana nos los envía* 'Ana sends them to us' complies with (11) because it combines a dative clitic *nos* 'to us' with a 3rd person accusative clitic *los* 'them'. On the other hand, **Ana nos*

os envía 'Ana sends you to us' is deviant because the dative combines with a 2nd person *os* 'you.PL'.

I propose that the PCC serves as a preliminary tool to distinguish between the Spanish quirky constructions with and without person restrictions in section 1.[2] Both types contain nominative subjects triggering verb agreement and an obligatory dative clitic, but nevertheless differ in one respect. The constructions with person restrictions in (3)–(10) combine a dative clitic with a reflexive clitic, while those without person restrictions in (2) contain only a dative clitic. I propose that this difference in clitic composition is at the core of the contrast in person effects.

The PCC tells us that an accusative clitic must be 3rd person in the presence of a dative clitic. Adopting two standard assumptions about reflexive clitics in Spanish, such a condition can correctly rule out the ungrammatical constructions in (4b–c), (8b–c), and (10b). The first assumption is that reflexive clitics in these and several other constructions are accusative. Recall that in Government-Binding Theory (Chomsky 1981 and references therein), a familiar view was that Romance reflexives were Case ''absorbers'' that triggered NP-movement of nominative objects, an example being passive *se* in *La casa se construyó* 'The house was built'. In view of Chomsky's recent work, a minimalist implementation of this idea could be that in the constructions we are looking at, *se* signals that little v cannot value structural Case on the logical object, which is valued nominative via entering an Agree relation with the finite inflection. The second assumption is that Spanish reflexives are person forms, or carry a person specification, which seems uncontroversial on morphological grounds for 1st and 2nd person forms such as *nos* and *os* in the above examples.[3]

[2] The PCC has been an influential source of subsequent proposals. Using evidence from ditransitive sentences, Ormazabal and Romero (1998, 2002) argue that the PCC is a syntactic condition on animacy. Boeckx (2000) uses the PCC for a morphological account of person restrictions in Icelandic quirky subject constructions. Anagnostopoulou (2003) develops a syntactic account based on movement for feature checking that unifies person restrictions in ditransitive sentences and in quirky constructions in Icelandic.

[3] It is not clear if Spanish *se*-reflexives should be considered person or nonperson forms. On the basis of French, Bonet (1991) proposes that Romance reflexive clitics consistently pattern with 1st and 2nd person pronouns (see also Kayne 2000:chap. 8). On this view, French (i) violates the PCC because of the accusative reflexive.

(i) *Elle se lui est donnée entièrement.
she REFL he.DAT.CL is given completely
'She has completely given herself to him.'

Bonet's idea cannot be adopted in exactly this form in Spanish, because equivalents of (i) are fully grammatical, as (ii) illustrates.

(ii) Ella se le entregó en cuerpo y alma.
she REFL he.DAT.CL gave in body and soul
'She gave herself to him in body and soul.'

The sentence in (ii) obeys the PCC if Spanish *se* is either a nonperson form or a person morpheme lacking specification for 1st or 2nd (a ''zero'' person); see Kayne 2000:152 for the distinction between zero person and nonperson.

Given these assumptions, the PCC rules out quirky constructions that combine a dative clitic and a 1st or 2nd person accusative reflexive clitic in (4), (8), and (10). By contrast, the quirky patterns in (2) contain a dative clitic and no accusative clitic, so are free of person restrictions because the PCC does not apply to them.

Thus, it is only indirectly that the dative in Spanish quirky constructions can interfere with finite verb agreement or enter into an agreement relation with its person. The crucial factor for person restrictions in the Spanish quirky constructions in (4), (8), and (10) is the interaction between the dative clitic and the accusative clitic, which can be shown in two ways. On the one hand, as in other clitic-doubling languages, dative clitics are always obligatory in quirky constructions in Spanish, but if the dative-nominative relation is not mediated by a reflexive clitic, no person restrictions arise, as with *gustar* 'like' in (2). On the other hand, the relation between dative and nominative phrases in (3)–(10) must also be mediated by the clitics, as I show next. In Spanish, 3rd person nominative subjects can cooccur with 1st/2nd person verbs, as (12a–b) illustrate.

(12) a. Los españoles pertenecemos a la Unión Europea.
the Spaniards belong.1PL to the Union European
'We Spaniards belong to the European Union.'
b. Ayer llegamos los españoles.
yesterday arrived.1PL the Spaniards
'Yesterday we Spaniards arrived.'

This phenomenon, known as ''unagreement'' (Hurtado 1984, Jaeggli 1986), suggests that there is no interaction between person in finite inflection and the nominative phrase. For instance, if (following Chomsky 2001), it is proposed that Agree determines Case on *los españoles* in (12b) on the basis of the ϕ-features of inflection, the person feature seems to play no role.

''Unagreement'' is grammatical with nominative objects in quirky constructions without person restrictions of the type in (2), as illustrated in (13).

(13) A Ana siempre le gustamos los españoles.
Ana.DAT always DAT.CL like.1PL the Spaniards
'Ana always likes us Spaniards.'

Thus, if the dative interferes with person in finite inflection, this fails to affect the relation between nominative and inflection in the absence of an accusative clitic. However, quirky constructions with person restrictions of the types in (4)–(10) are ungrammatical if they combine 3rd person nominative subjects with 1st/2nd person verbs, as (14) illustrates.

(14) *A Ana siempre nos le antojamos los
Ana.DAT always 1PL.REFL DAT.CL fancy.1PL the
españoles.
Spaniards
'*Ana always takes a fancy to us Spaniards.'

To repeat, the contrast between (13) and (14) suggests that the person content of the logical subject in the nominative in relation to inflection does not determine restrictions in Spanish quirky constructions unless the accusative mediates.

In sum, the PCC in (11) captures the contrast between the two types of quirky constructions in Spanish that are the topic of this squib, the new ones with person restrictions in (3)–(10) and (14), and the old ones without person restrictions in (2).

3 Bulgarian Quirky Subject Constructions and a Contrast with Spanish

Bulgarian exhibits PCC effects in ditransitive sentences, so a dative clitic *im* 'to them' combined with a 2nd person accusative *te* 'you.SG' is ungrammatical: **Az im te preporâchvam* 'I am recommending you to them'. Bulgarian also exhibits quirky subject constructions that resemble the Spanish types in section 1, but they are free of person restrictions. Here, I argue that the PCC can also capture this contrast, further motivating the proposal in section 2.

On the one hand, *xaresva* 'like' is rather similar to Spanish *gustar* in (2). We see in (15a–c) that this verb takes a dative subject obligatorily doubled by a dative clitic *mu* in colloquial Bulgarian (in literary style, the clitic can be absent), and a nominative object triggering verb agreement in a construction always free of person restrictions. A difference from Spanish that raises a red flag is that *xaresva* can cooccur with an optional literary-sounding reflexive clitic *se,* without an effect on the nominative person.

(15) a. Na Ivan mu (se) xaresvat tezi momicheta.
Ivan.DAT DAT.CL (REFL) like.3PL these girls
'Ivan likes these girls.'

b. Na Ivan mu (se) xaresvame nie.
Ivan.DAT DAT.CL (REFL) like.1PL we.NOM
'Ivan likes us.'

c. Na Ivan mu (se) xaresvate vie.
Ivan.DAT DAT.CL (REFL) like.2PL you.PL.NOM
'Ivan likes you.'

On the other hand, Bulgarian quirky patterns with the same syntax as the Spanish constructions with restrictions in (3)–(10) also exist. Consider *privizhda (se)* 'imagine, have a vision of' in (16a–c); its dative logical subject is obligatorily doubled by clitic *mu,* the accusative reflexive *se* is also obligatory, and the nominative triggers verb agreement. In contrast with Spanish, however, the nominative can also be 2nd or 1st person, as shown in (16b–c). Like the optional literary-sounding reflexive in (15), then, the obligatory reflexives in (16) do not affect nominative person in Bulgarian.

(16) a. Na Ivan mu se privizhdat tezi momicheta.
Ivan.DAT DAT.CL REFL imagine.3PL these girls
'Ivan has a vision of these girls.'

b. Na Ivan mu se privizhdame nie.
Ivan.DAT DAT.CL REFL imagine.1PL we.NOM
'Ivan has a vision of us.'
c. Na Ivan mu se privizhdate vie.
Ivan.DAT DAT.CL REFL imagine.2PL you.PL.NOM
'Ivan has a vision of you.'

I propose that Spanish and Bulgarian reflexive clitics differ in person status, because reflexive clitics in Bulgarian are nonperson forms. One fact that supports this idea is that they are invariable and serve for all persons, as (15)–(16) illustrate. On this view, the contrast in person effects in the quirky constructions of the two languages can be captured by the PCC. If Bulgarian reflexive clitics are nonperson forms, they do not violate the PCC when they combine with dative clitics in the quirky constructions in (15)–(16), so no person restrictions arise. In sum, the PCC can also serve as a preliminary tool to successfully capture the difference in person effects between Spanish and Bulgarian quirky constructions with similar syntax.

4 Conclusion

In this squib, I identified some new quirky subject constructions in Spanish with person restrictions of the Icelandic type, which are characterized by the combination of a dative clitic with a reflexive clitic. I showed that there is no direct interaction between dative logical subjects and finite agreement or nominative logical objects, and I used the PCC to explain why quirky constructions with reflexives display person restrictions and those without reflexives do not. The concluding step was to show a difference in person effects between rather similar Spanish and Bulgarian quirky subject constructions captured by the PCC under the hypothesis that reflexive clitics in the two languages differ in morphological specification. That is, in Spanish they are person forms, and in Bulgarian they are nonperson forms.

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EXPLETIVE CONSTRUCTIONS ARE NOT ''LOWER RIGHT CORNER'' MOVEMENT CONSTRUCTIONS

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Bobaljik (2002) proposes that covert and overt A-movement may be distinguished at the PF interface rather than in the syntax. In his proposal, movement takes place uniformly in the syntax, leaving a full copy in the moved-from position. In ''overt'' movement, PF privileges the higher copy (i.e., this copy is pronounced), and in ''covert'' movement, PF privileges the lower one. LF may also independently privilege a higher or lower copy (though a principle called Minimize Mismatch (Bobaljik 2002:251, Diesing 1997) exerts pressure toward PF and LF privileging the same copy). This results in four logically possible combinations: PF and LF both privileging the higher copy (overt movement with no reconstruction effects); PF privileging the higher copy, and LF the lower copy (overt movement with reconstruction effects); LF privileging the higher copy, and PF the lower copy (covert/LF movement); and both PF and LF privileging the lower copy (LF movement with reconstruction effects).

Examples of the first three types are widely recognized. Bobaljik argues (2002:246ff.) that the fourth possibility, which he labels Lower Right Corner (LRC) constructions, are exemplified by expletive constructions (ECs) with *there.* In this squib, I will offer evidence that movement of the sort that Bobaljik proposes does not take place in ECs, and hence that ECs do not exemplify LRC movement constructions. This result does not cast doubt on his general analysis or conclusions, but only on the status of ECs as movement constructions. In fact, economy considerations offer reasons to think that LRCs may exist in theory but not in reality, preserving the full underlying logic of Bobaljik's analysis.

1 The Case for Expletive Constructions as Lower Right Corner Movement Constructions

There is some evidence from agreement suggesting that ECs may be movement constructions. For example, in standard English, sentences like (1) show agreement forms of the verb coinciding with the number feature of the associate DP.[1]

(1) a. There is/*are a frog in the pond.
b. There are/*is frogs in the pond.

I am grateful to the anonymous reviewers for their very helpful comments on an earlier version of this squib. Any errors are my own.

[1] In fact, singular agreement does occur in structures such as (1b), even on the part of speakers producing otherwise standard English. Examples from BBC broadcasts include the following:

(i) ''There is still many issues to be resolved.'' (24/5/02)

(ii) ''There is a lot of question marks going into the game . . . '' (7/6/02)

Despite such examples, which are not difficult to find, I will proceed with the assumption that the data in (1b) are correct.

If normal subject-verb agreement is specifier-head agreement involving I^0 or Agr^0, and if the agreement patterns in (1) are to be explained as normal subject-verb agreement, then such data suggest covert movement of the associate DP to the requisite specifier position.

Other data, however, suggest that movement has not taken place (under earlier interpretations of such facts), or that the lower position is privileged (in Bobaljik's terms). Thus, in ECs, it is the lower (surface-positioned) DP that is significant for binding purposes, as in (2) (from Den Dikken 1995:348–349).

(2) a. Some applicants$_i$ seem to each other$_i$ to be eligible for the job.
b. *There seem to each other$_i$ to be some applicants$_i$ eligible for the job.

Here, then, we appear to have an example of an LRC movement construction, one where the associate DP has raised for the purpose of agreement, but where both PF and LF privilege the lower copy. To account for the presence of *there* in such constructions, Bobaljik claims that it is inserted in PF, much as *do* is inserted in the PF process of *do*-support.

2 Other Crucial Expletive Construction Agreement Data

However, a problem for Bobaljik's proposal is that agreement phenomena in ECs are not nearly as clear as set forth in (1). One significant set of EC agreement facts involves coordinated DPs. As I will show, these facts cast serious doubt on whether agreement in (1) is an indicator of movement.

2.1 Coordinated Associates versus Coordinated Subjects

Elsewhere (Sobin 1997), I have offered empirical evidence showing that when the associate in an EC is a coordination of DPs (NPs in that work), plural agreement on the verb is strongly triggered by the coordinate DP that is adjacent to (to the immediate right of) the agreeing verb, as indicated in table 1.[2] That the associate itself is a coordination has little effect. The same is not true with a coordinated subject. The coordination itself strongly induces a plural verb form (though this effect does seem to be reinforced by plural coordinated constituents), as shown in table 2.

What is crucial about these agreement facts is that they are completely out of sync with movement facts. It is widely recognized (Ross

[2] In these tables, *nps* refers to a plural NP/DP, and *np* to a singular one. The remaining wording is reasonably transparent. Items in the tables are numbered as in Sobin 1997.

Table 1
Agreement in expletive constructions with a conjoined associate. Judgments on a naturalness scale of 0–5, with 0 = ''impossible'' and 5 = ''completely natural.'' (From Sobin 1997:326.)

Construction type	Average acceptability (0–5)
27. *there are np and np . . .*	0.81
33. *there are np and nps . . .*	0.61
30. *there are nps and np . . .*	3.81
36. *there are nps and nps . . .*	4.00
25. *there is np and np . . .*	3.58
31. *there is np and nps . . .*	2.86
28. *there is nps and np . . .*	1.67
34. *there is nps and nps . . .*	1.69

Wilcoxon matched-pairs signed-ranks (one-tailed) test results
33 vs. 30 $\alpha < .005$, $N = 11$
31 vs. 28 $\alpha = .025$, $N = 10$

Table 2
Agreement in lexical-subject constructions with a conjoined subject. Judgments on a naturalness scale of 0–5, with 0 = ''impossible'' and 5 = ''completely natural.'' (From Sobin 1997:325.)

Construction type	Average acceptability (0–5)
9. *np and np are . . .*	3.31
12. *nps and np are . . .*	3.56
15. *np and nps are . . .*	3.83
18. *nps and nps are . . .*	4.31
7. *np and np is . . .*	2.22
10. *nps and np is . . .*	1.78
13. *np and nps is . . .*	0.81
16. *nps and nps is . . .*	0.69

Wilcoxon matched-pairs signed-ranks (one-tailed) test results
10 vs. 13 $\alpha = .025$, $N = 7$
12 vs. 15 not significant

1967) that a constituent cannot be raised out of a coordination, as indicated by the ungrammaticality of (3b).

(3) a. There is/*are a frog and some fish in the pond.
b. *A frog_i is [t_i and some fish] in the pond.
c. Some frogs and a fish are/*is in the pond.

Yet it is essentially the movement in (3b) that would appear to be required to explain the preferred pattern of plural agreement found in

ECs with a coordinated associate. Thus, a movement theory is in fact hard pressed to explain such patterns of agreement.[3]

2.2 Expletive Construction Agreement as ''Standard'' Rather Than ''Dialect/Idiolect''

It is important here to emphasize that the pattern of agreement for ECs shown in table 1 and in (3a) is not ''dialectal'' or ''idiolectal.'' It is a pervasive pattern of agreement in English ECs, so much so that even standard grammar texts, which are normally not inhibited from dictating formal patterns that are not natural as spoken patterns, sanction this sort of adjacency-based agreement in ECs. Thus, Fowler (1983:191) says, ''In this construction, *there is* may be used before a compound subject [= associate] when the first element in the subject is singular.''

3 A Different Solution

It appears, then, that a simple movement theory of ECs like the one Bobaljik advocates does not correctly project crucial basic agreement facts for ECs. Other theories have been advanced that account for such agreement facts more comprehensively, including those proposed in Sobin 1997, Deevy 1998, Schütze 1999, Munn 1993, 1999, and Aoun, Benmamoun, and Sportiche 1994, 1999. In Sobin 1997, I assign plural agreement in ECs to the type of extragrammatical rule that explains other non- or quasi-productive prestige constructions. Deevy analyzes agreement in English verb-subject orders as a sentence-processing effect driven by the surface positioning of these elements. Schütze argues that verb-subject agreement in English involves two distinct expletive constructions/agreement patterns, both relying on elements in surface position. Munn takes the position that what is termed partial agreement or first conjunct agreement in Arabic verb-subject constructions (much along the lines of agreement in English ECs) is due to agreement under government and to the asymmetrical structure of coordinated phrases.

[3] However, as one reviewer points out, Johnson (1996) argues for the possibility of movement out of the first conjunct of a coordinate structure, as in (i).

(i) Liz made Mason$_i$ out [$_{IP}$ t$_i$ to be intelligent] and [$_{IP}$ Sarah to be kind].

On the other hand, the unacceptability of (ii) still indicates strong limitations on such a possibility.

(ii) *The shoes$_i$ were put [t$_i$ and the socks] on the table.

Further, the particular movement that would be required to explain the singular agreement possibility seen in (3a)—namely, (3b)—is also not available.

Here, agreement involves only the superior member of a coordination.[4] Aoun, Benmamoun, and Sportiche argue that such agreement is instead due to a coordinate subject's having coordinated clauses as its source. Here, the clause introducing the second coordinate phrase is severely reduced, leaving only its subject as the remnant coordinated element. These analyses are very diverse, and the many issues they raise are far from resolved. However, it is noteworthy that none of them entail covert movement of associate to subject as a crucial step in determining agreement. In fact, the agreement data presented in the works cited generally do not support a movement analysis of ECs. Even the data given in (1) do not provide clear support for a movement analysis. In sum, there is no compelling evidence that ECs involve such movement, and hence that they exemplify the LRC movement construction.

Thus, there appears at present to be a gap in the evidence for the four-way typology of movement constructions, one that may be accidental or significant. If the gap is accidental, then there should exist a construction that shows, for example, completely ''normal'' (''subject''-like) agreement between a verb and a postverbal subject, and that shows reconstruction effects. If the gap is significant, then no such construction should exist.

Such a gap, if significant, may indicate that the four-way typology of movement constructions is not correct. However, it is also possible that even if no such LRC constructions exist, the typology is correct in principle, and the predicted LRC constructions are never actually realized for reasons of economy. Taking ECs as ''potential'' LRC movement constructions, it may be that in a theory that demands a strong motivation for movement, there is simply insufficient motivation for movement here. Movement in such a construction would accomplish little or nothing. Thus, the fourth type of movement, ''covert'' movement with reconstruction effects, is theoretically possible but not realizable: being unnecessary movement, it is banned on grounds of economy. Then, the four-way typology is correct in principle, though it cannot be fully instantiated given the crosscutting dictates of economy.

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[4] The data in table 2, however, show that there is some degree of pressure toward singular agreement from a singular right conjunct in a coordinated subject. This is compatible with the claim that coordination is ''flat,'' but not compatible with the claim that coordination is asymmetric. In fact, if coordination were asymmetric, and if agreement could involve only one member of the coordination, then it should be the left (superior but nonadjacent) member that exerts pressure toward singular agreement. Clearly, this is not the case.

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Making Sense of the Sense Unit Condition

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1 Introduction

Traditionally, it has been assumed that listener preferences for intonational boundary placement fall under the domain of linguistic competence. Under this view, native speakers of a language possess specific linguistic knowledge that determines permissible intonational phrasings for a given utterance. Although a number of theories of this type have been proposed (see, e.g., Nespor and Vogel 1986, Hirst 1993),

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Selkirk's (1984) may be the most successful to date. Selkirk proposes that the distribution of intonational phrase boundaries can be accounted for by a semantic constraint called the Sense Unit Condition (SUC).

(1) *The Sense Unit Condition of Intonational Phrasing*
The immediate constituents of an intonational phrase must together form a sense unit. Two constituents C_i, C_j form a sense unit if either (a) or (b) is true of the semantic interpretation of the sentence:
a. C_i modifies C_j (a head)
b. C_i is an argument of C_j (a head)

The SUC makes the following predictions for the sentences in (2):

(2) a. John gave the book // to Mary.
b. *John gave // the book to Mary.
c. John gave // the book // to Mary.

According to the SUC, (2a) is acceptable because both intonational phrases in the utterance form sense units. In (2b), the SUC is violated because the intonational phrase *the book to Mary* does not form a sense unit. *The book* and *to Mary* do not participate in a head-argument or head-modifier relationship. If an additional intonational boundary is added after *book,* as in (2c), the SUC predicts that the sentence should become acceptable because all three resulting intonational phrases form sense units.

An alternative account of the peculiarity of (2b) is provided by a theory grounded in processes involved with understanding and producing language. In particular, the Anti-Attachment Hypothesis (AAH; Watson and Gibson, in press) in (3) provides an explanation of the judgments in (2).

(3) *Anti-Attachment Hypothesis*
Listeners prefer not to attach an incoming word to a lexical head that is immediately followed by an intonational phrase boundary. As a result, the presence of a boundary at a local attachment site increases processing difficulty, and the presence of a boundary after a word that has no subsequent attachments decreases processing difficulty.

The AAH accounts for the judgments in (2) as follows. Sentence (2b) is less acceptable than sentences (2a) and (2c) because it includes a misleading cue: the intonational boundary between *gave* and *the book.* The presence of this boundary suggests to the listener that the NP *the book* does not integrate with the preceding verb *gave;* but this is incorrect, leading to an increase in processing difficulty. Sentence (2a) does not contain the misleading cue, and so this sentence sounds better. Sentence (2c) contains the misleading cue, but it also contains an additional helpful cue: the intonational boundary between *the book* and *to Mary.* This cue improves the acceptability of the sentence,

because no additional words attach to the immediately preceding site *the book.*

In Watson and Gibson, in press, we propose that the AAH follows from listeners' implicit understanding of the relationship between intonational phrasing information and syntactic structure during the production of a sentence, and that they use this knowledge to infer aspects of syntactic structure when comprehending a sentence presented auditorily. Support for the AAH comes from people's preferences in interpreting ambiguity and from complexity effects in unambiguous structures (see Watson and Gibson, in press, for a full discussion). For example, the intonational boundaries placed in the globally ambiguous sentences in (4) bias listeners toward one interpretation over the other.

(4) a. The cop saw // the spy with the telescope.
b. The cop saw the spy // with the telescope.

In (4a), the boundary after the verb *saw* biases the listener toward an interpretation where the PP *with the telescope* modifies the noun *spy* (Schafer 1997, Carlson, Clifton, and Frazier 2001). According to the AAH, the intonational boundary acts as a cue not to attach incoming items to the verb *saw,* so the listener interprets the PP as a modifier of the direct object. Similarly, the AAH predicts that the intonational boundary in (4b) will bias the listener toward an interpretation where the PP modifies the verb because it signals nonattachment to the noun *spy.* This is consistent with the findings in the literature (Price et al. 1991, Pynte and Prieur 1996, Schafer et al. 2001, Carlson, Clifton, and Frazier 2001).

2 Experiment 1

Experiment 1 tested the predictions of the SUC and the AAH using the structures in (5). Boundaries were placed at positions (1) and (2) as indicated.

(5) a. The detective showed the blurry picture of the diamond to the client.
b. The detective showed the blurry picture (1) of the diamond to the client.
c. The detective showed the blurry picture of the diamond (2) to the client.
d. The detective showed the blurry picture (1) of the diamond (2) to the client.

The PPs *of the diamond* and *to the client* do not form a sense unit. Thus, the SUC predicts that (5b)—in which the two PPs are alone together in one intonational phrase—will be judged to be less acceptable than (5a), (5c), and (5d), because (5b) is the only structure that violates the SUC. The SUC makes no predictions about the other three sentence structures. Thus, the SUC predicts an interaction between the presence of a boundary at (1) and the presence of a boundary at (2).

Like the SUC, the AAH also predicts that (5b) should be worse

than the other three conditions; but unlike the SUC, the AAH predicts a main effect of boundary placement at each of the two positions, and no interaction between the two effects. In particular, the AAH predicts that the boundary at (1) should make the sentences less acceptable, but the boundary at (2) should make the sentences more acceptable.

Forty-nine subjects participated in an auditory survey in which they listened to 16 sentences with the same structure as sentence (5). They were asked to rate the difficulty of each sentence on a scale from 1 to 7 (where 1 = very easy to understand and 7 = very difficult to understand). The details of the experimental method are given in the appendix. The resultant ratings are presented in figure 1.

As predicted by the both the SUC and the AAH, (5b) was numerically the least acceptable condition of the four. But the overall pattern of data was slightly better predicted by the AAH than the SUC. First, there was an overall effect of the boundary at position (1) that was marginal by subjects ($F_1(1, 34) = 3.46$, $p = .07$) and significant by items ($F_2(1, 15) = 12.23$, $p < .01$). There was no effect of a boundary at position (2) and no interaction between the two factors (Fs < 1).

Although the numerical pattern of data fits the predictions of the AAH, the boundary effect at position (2) did not reach significance. This effect may not have reached significance because of an independent factor—namely, that very short intonational phrases sound some-

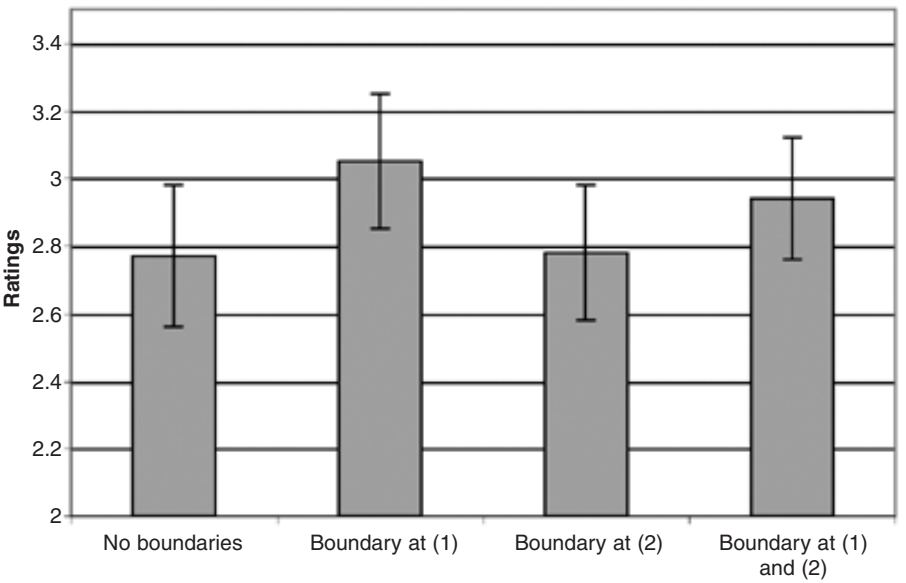

Figure 1
The mean difficulty ratings for the conditions in experiment 1, on a scale from 1 to 7, where 1 indicates a sentence that is very easy to understand and 7 indicates a sentence that is very difficult to understand.

what peculiar. Placing a boundary before the sentence-final PP in (5) leaves the PP *to the client* as its own intonational phrase. People may have a preference for longer intonational phrases, or perhaps for more evenly spaced intonational boundaries through an utterance (Gee and Grosjean 1983, Selkirk 2000). In either case, the sentence-final PP in (5) is short, consisting of two function words and one content word, and it is also short relative to the rest of the sentence.

The lack of an interaction was not predicted by the SUC, but this lack of an effect is not enough to rule out the SUC. As a result of these issues, a second experiment was designed to distinguish the predictions of the SUC from those of the AAH.

3 Experiment 2

In experiment 2, the structures in (6) were tested with intonational boundaries at positions (1) and (2).

(6) a. *Baseline*
The CEO of the company gave a portrait of the president to the manager on Wednesday.
b. *Boundary after attachment site*
The CEO of the company gave a portrait (1) of the president to the manager on Wednesday.
c. *Boundary after nonattachment site*
The CEO of the company gave a portrait of the president (2) to the manager on Wednesday.

The SUC predicts that both (6b) and (6c) should be more difficult than (6a) because both of these structures violate it. The strings *of the president to the manager on Wednesday* and *to the manager on Wednesday* do not consist of constituents that engage in head dependency relationships with each other.

Like the SUC, the AAH predicts that (6b) should be more difficult than (6a) because an intonational boundary separates a local attachment between *portrait* and *of the president.* In contrast to the SUC, however, the AAH predicts that (6c) should be more acceptable than (6a) because the boundary between *president* and *to the manager* correctly signals a nonlocal attachment of the PP *to the manager.*

The design of experiment 2 therefore differs from that of experiment 1 because the SUC and the AAH make opposing predictions in experiment 2, in condition (6c). Another difference is that the material following the nonlocal attachment site boundary is longer in experiment 2, consisting of two PPs (*to the manager* and *on Wednesday*), as opposed to a single PP in experiment 1 (*to the client*). Hence, if people disprefer very short intonational phrases, then such a constraint should have less of an influence here than in experiment 1.

We tested these predictions in an auditory survey similar to the survey conducted in experiment 1. Forty-nine new participants rated 15 items with the structure in (6). The results are presented in figure 2.

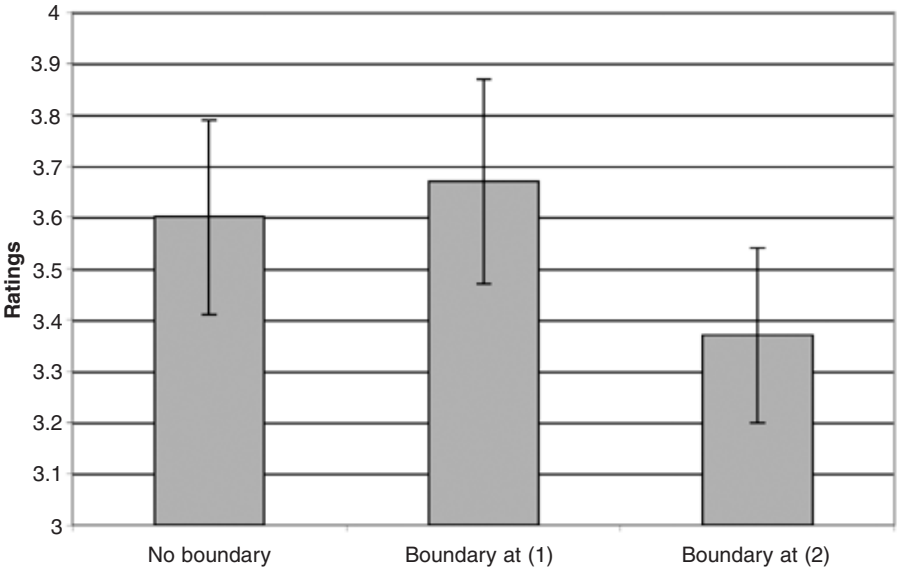

Figure 2
The mean difficulty ratings for the conditions in experiment 2, on a scale from 1 to 7, where 1 indicates a

The condition containing a boundary at (2), (6c), was rated less difficult than the condition with no boundary, (6a). This difference was significant in the participants analysis ($F_1(1, 48) = 4.79$, $p < .05$) and marginally significant in the items analysis ($F_2(1, 14) = 3.05$, $p = .10$). Although the condition with a boundary at position (1), (6b), was numerically less acceptable than the no boundary condition, this difference was not statistically significant (Fs < 1).

4 Discussion

The pattern of data observed in experiment 2 supports the Anti-Attachment Hypothesis over the Sense Unit Condition. Contrary to the prediction of the SUC, inserting a boundary at position (2) in the sentences structured like (6) made the sentences more acceptable, not less acceptable. This pattern of data was predicted by the AAH.

In comparing the results of the two experiments, it is interesting that the addition of a PP at the end of the materials in experiment 1 resulted in a significant boundary effect at position (2) in experiment 2. This effect was numerical, but not significant, in experiment 1. The shift in results provides suggestive support for the hypothesis that people disprefer sentences with very short intonational phrases, as in the materials in experiment 1.

One puzzle remains in interpreting the results of the two experiments relative to the AAH. The addition of the PP at the end of the sentences in experiment 2 also seems to have had the effect of reducing the boundary effect size at position (1), between the direct object and its argument. This effect was significant in experiment 1, but only numerical in experiment 2. It is possible that the numerical reduction in the effect size at this position may have been caused by a preference to have an intonational boundary in longer sentences. The sentences in experiment 2 were longer than those in experiment 1 (because of the inclusion of an extra PP). The additional sentence length may have introduced a greater preference to have a boundary somewhere in the materials in experiment 2, thus counteracting the predictions of the AAH (and the SUC).

Although the details of all the constraints that affect intonational boundary placement in English are still wide open, overall the results provide strong evidence for one performance-based theory—the Anti-Attachment Hypothesis—over one competence-based theory—the Sense Unit Condition.

Appendix: Experimental Details

Experiment 1 was a 2 $\times$ 2 design, varying the presence of an intonational boundary at the two locations indicated in (5). The 16 experimental sentences were randomly presented with 51 unrelated sentences, so that participants would not be able to determine the nature of the experiment. The stimuli were presented in four counterbalanced lists in a Latin square design such that each participant saw only one condition for each item. A yes-no question was presented after each sentence to ensure the participants understood the sentences. Only ratings from trials with correctly answered questions were analyzed.

In experiment 2, the 15 experimental items were randomly presented with 30 unrelated sentences, as well as 30 sentences that were part of an unrelated experiment. The stimuli were presented in three counterbalanced lists.

The stimuli in each experiment were created through digital editing. Each condition was produced and recorded independently. For each item, a control sentence was produced that contained no intonational boundaries. In order to control the prosody among the sentences, the sections of each condition containing the manipulated intonational boundary were spliced into the control condition. The section included the preboundary word, the intonational boundary, and the postboundary word. This was done in every condition, including the condition with no prosodic boundaries, to ensure that any differences in difficulty would not be attributable to irrelevant differences in prosody between the conditions or in the splicing itself.

The conditions with intonational boundaries were produced such that the final segment of the intonational phrase was lengthened and was followed by a perceptually salient boundary. All of the sentences were produced with a declarative intonation. A H* pitch accent oc-

curred on the preboundary word in all conditions, and the intonational phrase ended in a L% boundary tone. The pause between intonational phrases was approximately 200 ms.

Experiment 1 items

1. The detective showed the blurry picture (1) of the diamond (2) to the client.
2. The spy sent the secret message (1) about the blueprint (2) to the general.
3. The writer loaned the interesting script (1) for the screenplay (2) to the producer.
4. The cashier directed the exasperated mother (1) of the child (2) to the manager.
5. The agent mailed the critical review (1) of the story (2) to the manager.
6. The manager distributed the thick manual (1) for the software (2) to the employees.
7. The publisher mentioned the war poem (1) about the hero (2) to the editor.
8. The senator left the ornate portrait (1) of the mansion (2) to a foundation.
9. The surgeon prescribed the small bottle (1) of the medication (2) to the athlete.
10. The housewife slipped the small vial (1) of the poison (2) to the guest.
11. The tutor explained the difficult chapter (1) of the book (2) to the student.
12. The supervisor distributed the short memo (1) about the hardware (2) to the employees.
13. The firefighter mentioned the possible danger (1) of the explosion (2) to the chief.
14. The musician provided the interactive webpage (1) about the music (2) to the fans.
15. The salesman gave the informative presentation (1) about the product (2) to the customers.
16. The mathematician described the convoluted logic (1) of the puzzle (2) to the academics.

Experiment 2 items

1. The CEO of the company gave a portrait (1) of the president (2) to the manager on Wednesday.
2. The courier for the company delivered a copy (1) of the documents (2) to the secretary after lunch.
3. The intern at the office gave a fax (1) of the contracts (2) to the lawyer at noon.
4. The millionaire at the party donated a painting (1) of the skyline (2) to the museum on New Year's Day.
5. The manager of the store offered a description (1) of the suspect (2) to the police after the robbery.

6. The commander of the squad provided a briefing (1) of the mission (2) to the troops at daybreak.
7. The architect for the project presented a model (1) of the building (2) to the committee on Monday.
8. The emperor of the island awarded a portion (1) of the land (2) to the general after the invasion.
9. The professor of the class recommended a revision (1) of the rough drafts (2) to the students on Friday.
10. The representative of the company provided a demonstration (1) of the software (2) to the clients during the meeting.
11. The journalist at the battle contributed a story (1) about the war (2) to the magazine in April.
12. The author of the book dedicated the biography (1) of the actress (2) to his wife in the acknowledgments.
13. The director of the play suggested the omission (1) of the scene (2) to the producer before the rehearsal.
14. The parents of the child mailed a picture (1) of the boy (2) to an agent on Friday.
15. The expert on the region brought a summary (1) of the situation (2) to the senator after the bombing.

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