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CONSCIOUSNESS, BACKWARD
COREFERENCE, AND
LOGOPHORICITY
Seth A. Minkoff
University of
Massachusetts–Boston

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 corefering 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 corefering 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 corefering R-expression that is predicated of a node dominating the Self-anaphor, and hence the Self-anaphor is within its corefering 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 \bar{A} -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
María Luisa Rivero
University of Ottawa

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

Research for this squib was partially supported by Social Sciences and Humanities Research Council of Canada research grant 410-2000-0120. I thank Olga Arnaudova for information on Bulgarian and much help with the data reported in section 3. I also thank two anonymous reviewers for helpful comments. I am particularly grateful to the reviewer who made many valuable suggestions for further research, which I hope to exploit in future work on this topic.

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.