

# Syntax of backward anaphora: a view from Polish

Backward binding (henceforth BB), holds of coreference relations in which the pronoun linearly precedes its DP/NP antecedent. This study elaborates on Biskup (2011), where BB of the subject pronoun (*pro*) in Czech is investigated (Polish and Czech data overlap in this respect). His analysis is enriched below with two new perspectives: (a) the object and prepositional object pronouns are thrown into the frame, and (b) the notion of phase-command (Bruening 2014) replaces c-command (Chomsky 1986) as the (punitive) regulatory principle determining the relative placement of the pronoun and its antecedent. Reinhart (1983) highlights two contexts relevant for BB:

- (1) a. Focus effect in [...*pro*]...R... configurations;
- b. Focus vs destressing irrelevant in \*[*pro*/R...R] configurations.

R stands for the referential NP, *pro* stands for the pronoun and the brackets indicate their c-domains. Clause (1a) says that focus vs destressing impacts interpretation of constructions involving BB, where destressing is synonymous with the [+topic/background] status of the antecedent and focus implies a novel participant in the discourse. Focused NPs make inappropriate antecedents in BB. Through (1b) Reinhart observes that the focus vs destressing factor comes into play only when Condition C is controlled for: the pronoun cannot c-command its nominal antecedent Chomsky (1981, 1986). In his study of adverbial domains in Czech, Biskup (2011) elaborates on (1) and observes that subject pronouns (*pro*) in the main clause may be coreferential with a name in an adverbial clause, provided two conditions are met: (a) Condition C effects are avoided, and (b) the Background Adjunct Coreference Principle holds (BACP, Biskup 2011: 203):

- (2) Coreference between an R-expression within an adjunct clause and a pronoun in a clause distinct from the adjunct clause is possible only if the R-expression is backgrounded in the adjunct clause.

Effects of BACP overlap with findings in Bianchi (2009) and Reinhart (2011):

- (3) Topic-antecedent hypothesis: An (index on an) unbound pronoun can be assigned the referent of a following R-expression only if the latter is the sentence topic. (Bianchi 2009: 9)

In English the role of sentence topic is assigned either to the subject or the object of an active sentence, so they make good antecedents in BB, but not the NP in the *by*-phrase (Bianchi 2009: 8):

- (4) a. When he entered the room, <sup>ok</sup>Max greeted <sup>ok</sup>Bill.
- b. When he entered the room, <sup>ok</sup>Max was greeted by \*Bill.

Biskup (2011) observes that in Czech backgrounded NP-subject antecedents to cataphoric pronouns must be placed in a pre-verbal position. The following Polish examples illustrate the BACP and its relation with respect to Condition C:

- (5) a. [zanim <sup>ok</sup>Piotr<sub>1</sub> wyjechał]      pro<sub>1</sub> pocałował Marię<sub>2</sub>.  
before Peter<sub>1</sub> left      [he<sub>1</sub>] kissed Maria<sub>2</sub>.
- b. \*[zanim wyjechał \*Piotr<sub>1</sub>]      pro<sub>1</sub> pocałował Marię<sub>2</sub>.
- c. \*pro<sub>1</sub> pocałował Marię<sub>2</sub> [zanim Piotr<sub>1</sub> wyjechał].  
[he<sub>1</sub>] kissed Maria<sub>2</sub> before Peter<sub>1</sub> left
- d. \*pro<sub>1</sub> pocałował Marię<sub>2</sub> [zanim wyjechał Piotr<sub>1</sub>].
- e. \*pro<sub>1</sub> obiecał jej [że Piotr<sub>1</sub> wyjedzie z miasta]  
[he<sub>1</sub>] promised her that Peter<sub>1</sub> (will)leave from town

Biskup (2011) argues extensively that, information structure-wise, at spell-out the clause is partitioned into two major domains: the postverbal one, (vP phase), whose content belongs to information focus, and the preverbal one (CP phase), whose content is backgrounded. Consequently, the preverbal subject belongs to the CP-phase, while the postverbal one to the vP phase. Assuming that left adjunct clauses are not in the domain of *pro* (but see below), (5a) complies with both Condition C and the BACP, because the subject *Piotr* occupies a preverbal position. In (5b) Condition C is observed but the BACP is not, with *Piotr* in the postverbal position. Ex. (5c-d) show that Condition C sets in and causes ungrammaticality with right adjunct clauses, because they appear to be in the c-domain of the subject pronoun (*pro*). This happens despite the BACP being observed in (5c), so Condition C takes priority over the BACP. (5e) completes the picture by showing that the object clause is in the domain of *pro*. This study elaborates on the issue of the attachment point of right adjunct clauses in (5c-d) by considering object pronouns in the context of BB:

- (6) a. [Zanim <sup>ok</sup>Maria<sub>1</sub> wyjechała]      Piotr<sub>2</sub> ją<sub>1</sub> pocałował.

- |    |   |   |
|----|---|---|
|    | [before Maria <sub>1</sub> left]              | Peter <sub>2</sub> her <sub>1</sub> kissed          |
| b. | *[Zanim wyjechała *Maria <sub>1</sub> ]       | Piotr <sub>2</sub> ją pocałował.                    |
| c. | Piotr <sub>2</sub> ją pocałował,              | [zanim <sup>ok</sup> Maria <sub>1</sub> wyjechała]. |
|    | Peter <sub>2</sub> her <sub>1</sub> kissed    | before Maria <sub>1</sub> left                      |
| d. | *Piotr <sub>2</sub> ją pocałował              | [zanim wyjechała *Maria <sub>1</sub> ].             |
| e. | *Piotr <sub>2</sub> ją przekonał              | [że Maria <sub>1</sub> będzie gwiazdą]              |
|    | Peter <sub>2</sub> her <sub>1</sub> convinced | that Maria <sub>1</sub> will-be star                |

BB of the object pronoun is acceptable with right adjunct clauses in (6c). Evidently, the object pronoun does not c-command the right adjunct clause, which must be adjoined at the TP level. Ex. (6d) has the same representation as (6c) but the BACP is violated by the postverbal subject. Ex. (6a-b) show that the left adjunct clause is beyond the c-domain of the object pronoun but (6b) is a violation of the BACP. Predictably, the object clause in (6e) finds itself in the domain of the object pronoun, unlike the right adjunct in (6c). Interestingly, BB of prepositional object pronouns works exactly like (6) with right adjuncts:

- (7) a. Piotr<sub>2</sub> spojrział na nią<sub>1</sub>, [zanim <sup>ok</sup>Maria<sub>1</sub> wyjechała].  
Peter<sub>2</sub> looked at her<sub>1</sub> before Maria<sub>1</sub> left  
b. \*Piotr<sub>2</sub> spojrział na nią<sub>1</sub> [zanim wyjechała \*Maria<sub>1</sub>].  
c. \*Piotr<sub>2</sub> [<sub>VP</sub> mówił [<sub>PP</sub> o niej<sub>1</sub>] [<sub>CP</sub> że Maria<sub>1</sub> nie umie prowadzić]].  
Peter<sub>2</sub> spoke about her<sub>1</sub> that Maria<sub>1</sub> cannot drive

(7a) obeys Condition C and the BACP, (7b) violates the BACP and the ill-formedness of (7c) derives from Condition C. Although the pronoun is embedded in PP, it commands the object clause, while it does not command the right adjunct clause, as if the PP did not count for c(onstituent)-command, although it is a genuine constituent (as shown by movement tests). The comparison between (5), (6) and (7) invites at least two questions about the nature of the command relation relevant for (1b). I take its standard formulation to be:

- (8) Node A c-commands node B iff the first branching node dominating A does not exclude B. A excludes B iff no segment of A dominates B. (Chomsky 1986)

(Q1): if c-command determines BB, ex. (7c) should be fine; (Q2): if c-command determines BB, and both the left and right adjunct clauses are adjoined to TP (see 10 below), why does the *pro*-subject not c-command the left adjunct clause in (5a-b), whereas it does c-command the right adjunct clause in (5c-d)? Q1 and Q2 are answered successfully when BB is determined not by (8) but by Bruening's (2014: 343) 'precede and phase-command':

- (9) A phase-commands B iff A precedes B and the first phase node dominating A dominates B (phase nodes include: vP, CP and DP/NP but not PP).

- (10) [<sub>CP</sub> [<sub>TP</sub> [<sub>TP</sub> [<sub>CP<sub>adj</sub></sub> ..R<sub>1/2/3</sub>..]] [<sub>TP</sub> *pro*<sub>1</sub> [<sub>vP</sub> .. obj<sub>2</sub> [<sub>VP</sub> V ~~obj~~ [<sub>PP</sub> obj<sub>3</sub>] [<sub>CP<sub>obj</sub></sub> ..R\*<sub>1/\*2/\*3</sub>..]]]] [<sub>CP<sub>adj</sub></sub> ..R\*<sub>1/2/3</sub>..]]]

In (10) **CP** and **vP** delimit phase-command domains; **CP<sub>adj</sub>**, an adjunct clause, is adjoined to TP on the left and on the right; **CP<sub>obj</sub>**, the object clause, is embraced by **vP**. Pronouns in all positions tolerate forward binding by R<sub>1/2/3</sub> in the left adjunct clause because the regular object pronoun (obj<sub>2</sub>) and the prepositional object pronoun (obj<sub>3</sub>) do not phase-command the left adjunct (they are embraced by the vP phase) and although *pro*<sub>1</sub> does phase-command it (with **CP** being the first dominating phase node), it does not precede it. Only obj<sub>2</sub> and obj<sub>3</sub> tolerate BB by R\*<sub>1/2/3</sub> because the right adjunct is beyond their phase-command domain; however, the subject *pro*<sub>1</sub> both precedes and phase-commands it. No BB by R\*<sub>1/\*2/\*3</sub> is possible, since the object clause is embedded in the **vP** phase and is preceded and phase-commanded by *pro*<sub>1</sub>, obj<sub>2</sub> and obj<sub>3</sub>. Polish data confirm that BB is sensitive to 'precede and phase-command' (Bruening 2014) and the BACP (Biskup 2011).

**References:** Bianchi, V. 2009. A Note on Backward Anaphora. *Rivista di Grammatica Generativa* 34. 3-34. Biskup, P. 2011. *Adverbials and the Phase Model*. Berlin: John Benjamins. Bruening, B. 2014. Precede-and-Command Revisited. *Language* 90 (2). 342-388. Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Kluwer. Chomsky, N. 1986. *Barriers*. Cambridge, MA.: The MIT Press. Diesing, M. 1992. *Indefinites*. Cambridge, MA.: The MIT Press. Reinhart, T. 1983. *Anaphora and semantic interpretation*. London: Croom Helm. Reinhart, T. 2011. Processing or pragmatics? Explaining the coreference delay. In Gibson, E. & N. Perlmutterl (eds.), *The Processing and Acquisition of Reference*. Cambridge, MA: The MIT Press, 157-194.