

## The effect of anaphor embedding on binding by Experiencer Datives in Polish.

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This study focuses on binding by dative Experiencers (Exp<sub>DAT</sub>) in the Polish psychological predicate structures of the Experiencer – Theme type (Exp - Th). The judgements as for whether Exp<sub>DAT</sub>s can bind anaphors vary, typically allowing binding in non-verbal predicates selecting for non-nominative Themes (Th<sub>non-NOM</sub>), but disallowing anaphor binding in structures with verbal predicates and nominative Themes (Th<sub>NOM</sub>). We propose that the lack of binding in Exp<sub>DAT</sub> – Th<sub>NOM</sub> structures is caused by the Anaphor Agreement Effect, AAE (Rizzi 1990; Woolford 1999), i.e. a generalization which states that “anaphors do not occur in syntactic positions construed with agreement”. We support this claim with the results of two experiments: a) Exp1 – testing binding by Exp<sub>DAT</sub> in Exp<sub>DAT</sub> – Th<sub>NOM/non-NOM</sub> structures, as in (1-2), and b) Exp2 - testing binding by indirect object datives (IO<sub>DAT</sub>) in double object constructions, DOCs, as in (3)

In both experiments, we elicited grammaticality judgments using a 7-point Likert scale, testing experimental items based on three binary variables. In Exp1, these were: a) theme.case (nominative vs. non-nominative), b) bindee.type (possessive pronoun vs. possessive reflexive) and c) bindee.embedding (one-degree, e.g. [NP self's/her sister]), vs. two-degree embedding, e.g. [NP friend [NP self's/her sister<sub>GEN</sub>]]). The latter two variables were also used in Exp2. The reason for using anaphor embedding as a variable was to examine the degree to which it facilitates binding. Also, since two degree embedding results in a change in case marking of the embedded NP (to genitive), it will directly test the influence of AAE on binding. Therefore, we predict that if, in general, Exp<sub>DAT</sub>s can bind anaphors, but the AAE disallows agreeing anaphors, then: a) we should find a consistent difference in binding by Exp<sub>DAT</sub>s in Th<sub>NOM</sub>, (1), and Th<sub>non-NOM</sub>, (2), and b) we should find a stronger effect of embedding on reflexives modifying NPs embedded in Th<sub>NOM</sub>, (1b), than the ones in Th<sub>non-NOM</sub>, (2b). Moreover, we use the results of Exp2 on DOCs (Author et. al, to appear) as a baseline for the interpretation of the embedding effect. In Exp2, we found no statistically significant effect of bindee's level of embedding, which means that the same binding possibilities hold regardless of pronoun/reflexive embedding. This is expected considering the fact that IO<sub>DAT</sub>s do not bind anaphors, as the results of Exp2 indicate. This also indicates that, if, similarly to IO<sub>DAT</sub>s, Exp<sub>DAT</sub> cannot bind anaphors, we should not expect any anaphor binding improvement under anaphor embedding.

The experiments' variables in focus are illustrated in (1-3); the sentences provide grammaticality judgments based on the acceptability task in Exp1 and Exp2.

(1) **Exp 2 – binding by Exp<sub>DAT</sub> into verb-agreeing Th<sub>NOM</sub>**

a. **Koleżance**<sub>1</sub> przypomniał się [**\*swój<sub>1</sub>/je<sub>1</sub>** pierwszy chłopak].  
friend<sub>3.SG.FDAT</sub> recalled<sub>PST.3.SG.M</sub> refl self's<sub>NOM</sub>/her<sub>NOM</sub> first boyfriend<sub>3.SG.M.NOM</sub>  
'My friend recalled her first boyfriend.'

b. **Kuzynce**<sub>1</sub> przypomniał się [dziadek [**?\*swoje<sub>1</sub>/je<sub>1</sub>** przyjaciółki]].  
cousin<sub>DAT</sub> recalled<sub>3.SG.M</sub> refl grandfather<sub>NOM.M</sub> self's<sub>GEN.F</sub>/her<sub>GEN.F</sub> friend<sub>GEN.F</sub>  
'My cousin recalled the grandfather of her friend.'

(2) **Exp 2 – binding by Exp<sub>DAT</sub> into verb-non-agreeing Th<sub>non-NOM</sub>**

a. **Marii** brakowało [**?swojego/jej** narzeczonego].  
Maria<sub>DAT</sub> missed/lacked self's/her fiancée<sub>GEN</sub>  
'Maria was missing her fiancée'

b. **Marii** brakowało [towarzystwa [**?swojego/jej** narzeczonego]].  
Maria<sub>DAT</sub> missed/lacked company<sub>GEN</sub> self's/her fiancée<sub>GEN</sub>  
'Maria was missing the company of her fiancée'

(3) **Exp 1 – binding by IO<sub>DAT</sub> into accusative dierct object**

a. Babcia pokazala wnukowi [\*swoja<sub>1</sub>/jego<sub>1</sub> kuzynkę]  
 granny<sub>3SG.F.NOM</sub> showed<sub>3SG.F.PST</sub> grandson<sub>DAT</sub> self/his cousin<sub>ACC</sub>  
 ‘Grandmother showed her grandson his cousin’

b. Babcia pokazala wnukowi [zdjęcie [\*swojej<sub>1</sub>/jego<sub>1</sub> kuzynki]]  
 granny<sub>3SG.F.NOM</sub> showed<sub>3SG.F.PST</sub> grandson<sub>DAT</sub> picture<sub>ACC</sub> self/his cousin<sub>GEN</sub>  
 ‘Grandmother showed her grandson a picture of his cousin’

The results of Exp1 showed three significant main effects: theme.case:  $F(1,94) = 240,704$ ,  $p=.000$ , bindee.type:  $F(1,94) = 372,011$ ,  $p=.000$  and embedding:  $F(1,94)= 6,542$ ,  $p=.012$ , as well as a significant interaction between theme.case\* bindee.type\*embedding:  $F(1,94) = 21,088$ ,  $p = .000$ . This means, among others, that bindees in Th<sub>nonNOM</sub> were rated high as both reflexive and pronominal, with a preference for pronominal bindees. Bindees in Th<sub>NOM</sub> were rated higher as pronominal than as reflexive. Two degree embedding improved acceptability of reflexive possessive bindees to a larger extent than pronominal bindees. This improvement was more significant in the case of nominative bindees than non-nominative ones. The results of this experiment thus confirm our prediction that the AAE is the factor negatively influencing the acceptability of binding in Exp<sub>DAT</sub> - Th<sub>NOM</sub> structures.

However, if, generally, Exp<sub>DATS</sub> can bind anaphors, why is it that for many speakers, they cannot bind a reflexive possessive embedded in a nominative theme, as in (1a) or embedded in a complement NP of the nominative theme (1b), neither of which is an argument directly involved in agreement with T? Since the original version of AAE does not apply to possessive anaphors, in our analysis, we would like to extend the notion of Anaphor Agreement Effect to contexts in which the anaphor itself is not an argument directly involved in agreement with the verb but only modifies the agreeing NP, as in (4). We propose the following structure, in which the possessive is an adjunct (following Despić 2011, 2013, 2015):

(4) T<sub>AGR,1/2</sub> ... [NP self<sup>2</sup><sub>(NOM)</sub> [NP boyfriend<sub>1</sub><sub>(NOM)</sub>]]<sub>1/2</sub>

In this structure, the possessive element is equidistant to T with the NP it modifies, which makes it ambiguous when the AAE applies. We assume that the possessive may force its referential subscript to represent the subscript of the entire NP. This is to account for unacceptability of (1a). We assume that for the purpose of binding, the extension of the subscript may be less local, and the possessive need not be close to the edge of the higher NP<sub>3</sub> to propagate its referential subscript to the whole complex NP, as in (5). This is to account for unacceptability of (1b).

(5) T<sub>AGR2/3</sub> ... [NP<sub>2</sub> grandfather<sub>3</sub><sub>(NOM)</sub> [NP<sub>1</sub> self<sup>2</sup><sub>(GEN)</sub> [NP<sub>1</sub> friend<sub>1</sub><sub>(GEN)</sub>]]]<sub>2/3</sub>

The idea of referential subscript extension as shown in (4-5) is based on a correspondent notion of logophoric extension in Obligatory Control structures which was proposed in Landau (2000: 109-111) as in (6), which can also apply less locally, as in (7).

(6) It would help Bill's<sub>1</sub> development [PRO<sub>1</sub> to behave himself<sub>1</sub> in public]

(7) ?It considerably helped [NP<sup>1</sup> first stages of [NP<sup>2</sup> her<sub>1</sub> music career]] [PRO<sub>1</sub> to have an uncle in a record company]

**Selected references:**

**Despić, M. 2013.** Binding and the structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44(2). 239–270. **Landau, I. 2000.** *Elements of Control: Structure and Meaning in Infinitival Constructions*. Dordrecht: Kluwer Academic Publishers. **Rizzi, L. 1990.** On the anaphor-agreement effect. *Rivista di Linguistica* 2:27–42.