

Referential Relations in Polish

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1 Overview

This paper deals with the relationship between anaphora and their antecedents in Polish. In the trivial case, an anaphor and its antecedent are coreferent, i.e., they stand in a transitive relation to each other such that they have the same referent in the mental model of the real world. This case of referential relation is illustrated in (1).

- (1) **Ewa** *znienawidziła siebie sama.*
 Ewa.FEM.SG started to hate herself.FEM.SG
 ‘Ewa started to hate herself.’

The reflexive anaphor *siebie sama* ‘herself’ in (1) not only correlates with its antecedent *Ewa* ‘Ewa’ by referring to the same entity, but also with respect to morphosyntactic properties and syntactic form. Both the anaphor and the antecedent have the third person singular feminine form and are syntactically expressed by a single noun phrase. The anaphor--antecedent relationship is conventionally indicated by coindexation, i.e., by the identity of referential indices. In some linguistic paradigms, such as GB (Chomsky 1981), referential indices are represented by numeric or alphabetic subscripts. In other frameworks, such as LFG (Bresnan 2001), LTAG (Ryant and Scheffler 2006) or some versions of HPSG (Sag et al. 2003), referential indices are encoded as atomic individual variables specified as values of the attribute INDEX. In the standard HPSG framework (Pollard and Sag 1994), the value of the INDEX attribute of semantically contentful nouns is not an atomic entity but rather a complex abstract linguistic object providing three agreement features: PERSON, NUMBER, and GENDER. According to this paradigm, coindexed entities always agree. Agreement between coindexed objects is also postulated in Sag et al. (2003). The mechanism of indexation is crucial to formal theories accounting for the distribution of anaphoric expressions such as reflexives, reciprocals, traces and PROs (Binding Theory, Trace Theory, Control Theory). There are, however, two fundamentally different views of the interpretation of coindexation. According to the first one (Reinhart 1983), coindexation does not entail coreference, nor does non-coindexation entail non-coreference. Indices are assumed to represent only syntactic binding relations. According to the second view (Fiengo and May 1994), coindexation entails coreference. The Polish data in this paper

are discussed in the context of the letter model, assuming that coindexation is interpreted as indicating coreference.

Due to the correlation of reference, morphological and syntactic form, the referential relation between the reflexive anaphor *siebie samą* ‘herself’ and its antecedent *Ewa* ‘Ewa’ in (1) can easily be indicated by coindexation, understood as both identity of numeric or alphabetic subscripts and identity of values (whether atomic or complex) of the attribute INDEX. There are, however, cases of referential relations in Polish which pose a challenge for the mechanisms of indexation entailing coreference and agreement. These cases are presented in (2), (3), (4), (5), (6), (7), and (8).

- (2) **Ten babsztyl** *znienawidził* / **znienawidziła*
this bitch.MASC.SG started to hate.MASC.SG / started to hate.FEM.SG
siebie samego / **siebie sama**.
himself.MASC.SG / herself.FEM.SG
‘This bitch started to hate herself.’
- (3) **Kogo** *zauważłeś*, że *Ewa czasem lubi t* a
who.ACC/GEN noticed.2ND.SG that *Ewa sometimes likes t*.ACC and
czasem nie lubi t?
sometimes not likes *t*.GEN
‘Who did you notice that Ewa sometimes likes and sometimes does not like?’
- (4) **Piotr** *kazał dziecku* **PRO** *zrobić sobie samemu*
Piotr.MASC.SG made child.NEUTR.SG PRO do him/itself.MASC/NEUTR
kolację.
dinner
‘Piotr made his child make dinner for himself / itself.’
- (5) **Ewa zaproponowała Janowi**, żeby **PRO** pomagali **samym sobie**.
Ewa suggested Jan to PRO help themselves
‘Ewa suggested to Jan that they help themselves.’
- (6) **(My / ja) z żoną** pomagamy **samym sobie**.
we / I with wife help themselves
‘My wife and I help ourselves.’
- (7) Gospodarcze wspieranie **siebie samych nawzajem** jak też krajów
economic support each other and also countries
pozaeuropejskich zawsze należało do programu **Unii Europejskiej**,
outside of Europe always belonged to program European Union
która w zasadzie nie jest przygotowana, aby stawać **sobie samej** takie cele.
which in fact not is prepared to set itself such objectives

‘Mutual economic support as well as economic support of countries outside of Europe have always been a part of the program of the European Union, which, in fact, is not prepared to set itself such objectives.’

- (8) **Każde dziecko kupiło sobie samemu lizaka.**
every kid bought himself lolly
‘Every kid bought himself a lolly.’

Due to the lacking identity of reference (cf. (5) and (8)), morphological form (cf. (2), (3), (4), (5) and (7)), or syntactic form (cf. (5) and (6)), an ordinary coindexation of the expressions written in bold appears problematic for frameworks in which coindexation entails coreference and agreement. An explicit indication of anaphoric relations in these sentences is, however, relevant to Binding Theory (cf. (2), (4), (7) or (8)), Control Theory (cf. (5)), and Trace Theory (cf. (3)). In this paper, we propose an approach to indexation which draws on the assumption that the reference of nominal objects is indicated by a referential index understood as a variable over a set of atomic individual variables rather than an atomic individual variable. The referential index of a singular term will, for instance, be indicated by a variable over a singleton set involving a variable identified with the referent of this term. The index of a plural term will be indicated by a variable over a set of variables, each of which is associated with every single referent of this plural term. Our theory is implemented within the HPSG framework. We propose that the semantic representation of nominal objects involves the attribute VARIABLE, taking a set of individual variables as its value. The attribute VARIABLE serves as a new mechanism for indexation. The PHI-features are specified independent of the attribute VARIABLE. Due to these stipulations, coindexing of non-agreeing expressions is possible. Given that the mechanism of indexation is based on the idea of sets of indices rather than atomic indices, on the one hand, and on the separation of the PHI-features from the referential index, on the other hand, the non-trivial referential relations can easily be accounted for.

References

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