

Differential Object Indexing in Nayini: The complex interaction of animacy, referentiality and grammatical function

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Nayini, an Iranian language, expresses Differential Object Indexing (DOI) by a clitic element that agrees in number and person with the indexed argument. The clitic can either index the direct object or the indirect object, a cross-linguistically rare phenomenon. We will present the results from the first and extensive corpus analysis of more than 2,600 sentences with direct or indirect objects. We show that indirect objects are only indexed if the corresponding argument is a null pronoun, while direct objects show a more complex interaction of animacy and referentiality. This is a mirror-image of Differential Object Indexing (aka “clitic doubling”) in Peninsular Spanish (Rinke et al. 2019), but reported for Balkan languages. Thus, the new data of Nayini raises interesting questions with respect to the interaction of different prominence scales, including grammatical function, animacy and referentiality and calls for an explanation of DOI in terms of a general theory of discourse prominence (von Heusinger & Schumacher 2019).

Nayini is an under-investigated low-resourced language from the Central Iranian group (cf. Windfuhr 1992). It does not have a definite article, but can optionally use the marker *-æ* for definiteness, while indefiniteness can optionally be marked by the numeral *yæg/yæk* ‘one’ or the marker *-i*. All finite verbs in the present tense agree with the subject in person and number, indicated by a suffix on the verb (note that there is not gender distinction in Nayini). Prior research demonstrates a total lack of case marking in this language (Bossong 1985: 10), but documents Differential Object Indexing (=DOI) (Dabir-Moghaddam 2013; Mohammadirad 2020), i.e. the optional marking of objects on the verb or certain other elements of the verb phrase. In the following example (1a), the proclitic *ši* indexes the plural direct object *di væča* ‘these children’, while in (1b) the direct object is not indexed. In (2a) the (null) indirect object referring to *kuyæ* ‘dog’ introduced in the first clause, is indexed on the verb, while in (2b) the overt indirect object *kuyæ-æ* ‘the dog’ is not. In these examples, the subscripts on pronominal clitics refer to indexed arguments, while verbal suffixes always index subjects.

- (1) a. *dar-æ di væč-a ši=tærs-n-æ*
have-3SG this.PL child-PL 3PL_{DO}=fear-CAUS-3SG
‘(S)he is frightening these children.’
- b. *don dar-æ du dot-æčo-æ æ-tærs-n-æ*
this.HUM have-3SG this girl-DIM-DEF IPFV-fear-CAUS-3SG
‘This one is frightening this little girl.’
- (2) a. *endæ ji kuyæ=o. dar-em. yæg či-yi š=æ-t-em.*
Here also dog=be.3SG have-1PL one thing-INDF 3SG_{IO}=IPFV-give-1PL
‘Here, too, there is a dog. We are giving it something.’
- b. *yæg či-yi kuyæ-æ t-æ.*
One thing-INDF dog-DEF give-3SG
‘(S)he is giving something to the dog.’

There has been no empirical data that allows to further investigate the interaction of the relevant prominence scales that determine this complex system of DOI. The present investigation attempts at filling this gap. The fieldwork data derive from interviews with 30 native speakers in June 2024 (27 hours of audio-recorded data; 55 action cards for story-telling, 96 pictures for description, and two silent short films for re-narration). For the transcription of recorded data, we first transcribed 3,083 sentences with direct or indirect objects and annotated for DOI and for NP type, animacy, and referentiality. We are continuing our annotation and will extend it to discourse effects (see von Heusinger et al. 2024).

We can summarize the following results from the quantitative observations (Table 1). First, DOI obligatorily occurs across all conditions with null pronouns, as in (2a), except for inanimate direct

objects. Second, for indirect object, DOI only occurs with null objects, but not with other NP types. Third, for direct objects, DOI depends on animacy and NP type (referentiality).

Table 1. The rate of indexation of direct and indirect objects (with the token frequencies within brackets)

Word type	Human DO-DOI	Animal DO-DOI	Inanimate DO-DOI	Human IO-DOI	Animal IO-DOI	Inanimate IO-DOI
Null pronoun	96% (213/223)	92% (24/26)	19% (72/373)	93% (43/46)	100% (14/14)	83% (5/6)
Pron/Dem/PN	28% (17/61)	11% (1/9)	6% (7/125)	1% (1/182)	0% (0/10)	5% (2/43)
Def NP	14% (2/14)	0% (0/4)	3% (4/150)	0% (0/22)	0% (0/0)	0% (0/62)
Unresolved	34% (11/32)	12% (2/17)	2% (11/674)	0% (0/38)	9% (1/11)	0% (0/71)
Indef NP	25% (4/16)	50% (1/2)	1% (4/363)	0% (0/18)	0% (0/4)	0% (0/18)
Categories' total	71% (247/346)	48% (28/58)	6% (98/1685)	14% (44/306)	38% (15/39)	4% (7/200)
Grand total	18% (373/2089)			12% (66/545)		

What is particularly interesting in this research is the attestation of DOI with indirect objects in Nayini. Cross-linguistically, the attestation of DOI phenomenon for both direct and indirect objects in the same language is not common, though at least it has been reported for Balkan languages (e.g., Mišeska-Tomić 2011). In Nayini, the overall rate of this phenomenon with indirect object is slightly less than its rate with direct object (12% vs 18%, respectively).

The core difference in indexation patterns is that DOI for direct objects follows both animacy and referentiality, whereas for indirect objects it only follows referentiality. Moreover, the referentiality distribution differs clearly: indirect objects are indexed only for null pronouns, while direct objects appear across the full scale. This constitutes a mirror image of Peninsular Spanish, where DOI is obligatory for null and overt pronominal direct objects, but indirect objects show a wider referential distribution (Rinke et al., 2019). We propose that a general theory of discourse prominence can account for these differences by assigning distinct prominence rankings to grammatical functions. Indirect objects tend to be highly animate, neutralizing animacy effects in both languages, while referentiality drives DOI differently: Spanish restricts DOI for direct objects to the top of the scale, whereas Nayini restricts DOI for indirect objects to null pronouns. Additional data will illustrate the discourse function of DOI following von Heusinger et al. (2024).

These findings provide the first comprehensive empirical evidence on DOI in Nayini, revealing distinct conditions for indexing direct vs. indirect objects. The observed asymmetry underscores a typologically rare pattern that challenges existing assumptions about alignment and grammatical function. By contrasting Nayini with Spanish and Balkan languages, the study highlights the need to refine current models of prominence-based differential marking. Overall, the results motivate a unified theoretical account of DOI grounded in discourse prominence and its interaction with animacy and referentiality.

Keywords: DOI, (in)direct object, prominence, animacy, referentiality, Nayini.

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