

Generic sentences in a differential-object marking language: The case of Persian

We investigate the linguistic expression of various readings of generic sentences with particular attention to objects in Persian, a differential-object marking language (cf. for prior treatments Karimi 2003; cf. also Dayal 1992 for Hindi). Generic sentences (characterizing sentences in the sense of Carlson & Pelletier 1995) require the durative verbal prefix *mi-*. We exemplify this in four core examples with a coarse indication of the syntactic structures, and specify the position of the main accent in capital letters.

- (1) What happened? -- [_S *gorbeh* [_{VP} *MOOSH shekar kard*]]
'The cat chased a mouse / mice.', lit. 'hunting did', a light verb construction
- (2) Tell me something about cats. -- [_S *gorbeh* [_{VP} *MOOSH shekar mi-koneh*]]
'A cat chases mice', 'Cats chase mice'
- (3) What happened? -- [_S *gorbeh moosh₁-ro* [_{VP} *t₁ SHEKAR kard*]]
'The cat chased the mouse.'
- (4) You cannot have a cat with your pet mice! [*gorbeh* [*moosh₁ ro*][_{VP} *t₁ SHEKAR mi-koneh*]]
'A cat CHASES a mouse / mice.'

We notice that object NPs without the postposition *ro* seem to be interpreted as indefinite and number neutral, cf. (1). The durative prefix *mi-* allows for a generic (habitual) reading, cf. (2). We assume that *ro* indicates that the object scrambles out from the vP where it is lexically licensed (cf. also Browning & Karimi 1994). This can result in a definite reading, (3), or in a generic reading when *mi-* is present, (4), with the object as part of the restrictor of the generic operator (cf. Dabir-Moghaddam 1992). Persian does not have a definite article (beyond colloquial *-e*), but an indefinite article *yek* derived from the number word 'one', as in *yek moosh* 'a mouse' that would enforce a singular interpretation in (1). *Yek*-marked objects are unusual in generic sentences like (2) but they are possible with *ro*-marked objects like (3), resulting in a specific-indefinite reading.

We explain this distribution based on a proposal by Krifka & Modarresi (2016) that bare nouns (i.e. nouns not marked by *yek*, or numerals), are always definite, represented by a Skolem function that renders a unique entity depending on a parameter. Independent evidence for that is the fact that bare subjects as in (1) are interpreted as definite. In a DRT-inspired format, (1) is interpreted as in (1), where D is the set of discourse referents (DRs) that are available for anaphoric reference, and there is existential closure over the vP (cf. Diesing 1992) that ranges over an event variable *e*. The object NP is interpreted as mouse(*e*), the unique mouse of the event *e*, and the subject is interpreted as the unique or most salient cat in the DRs introduced so far.

- (1) [$\bigcap D x \mid x = \text{cat}(D), \exists [e y \mid y = \text{mouse}(e), e: \text{chase}(x, y)]$] (tense is not represented)

This representation predicts a limited accessibility of the object DR *y* for further uptake using the abstraction and summation rule of Kamp & Reyle (1993). It also predicts the possibility of a number-neutral interpretation, as the event DR *e* might be able to be anchored to more than one event, and hence the DR *y* to more than one mouse. Modarresi & Krifka (2021) also provide experimental evidence for this limited uptake and investigate the conditions under which a non-singular interpretation is preferred.

In case the object NP is *ro*-marked, it scrambles outside of the vP and cannot be interpreted within existential closure. Consequently, it receives a definite interpretation, as in (3)

(3) $[\bigcap D x y \mid x=\text{cat}(D), y=\text{mouse}(D), \exists[e \mid e: \text{chase}(x, y)]]$

The domain D should not be understood as restricted to the DRs introduced in course of the current conversation. Bare nouns can also refer to entities given in the shared situation or background knowledge of the participants of the conversation.

As for the generic sentences (2) and (4), we assume a generic operator that relates a restrictor with a nuclear scope, as first proposed in Carlson (1989). While we remain non-committed about the precise nature of this operator, we claim that the restrictor identifies the type of situation over which the generalization is made. We assume an operator GEN that can be present at the level of the sentence S and introduces a situation *s*; in a fleshed-out syntactic representation such as Rizzi 1997, S would contain a syntactic domain for topics and restrictors. The GEN operator can be specified by adverbial quantifiers like *aghlab* ‘usually’, which occurs sentence-initially or in front of the vP. Since the resulting sentence is stative, it requires the durative marker *mi*. We then get the interpretations in (2) and (4):

(2) $[\bigcap D \mid \text{GEN} [s x \mid x=\text{cat}(s) ; \exists [e y \mid y=\text{mouse}(e), e: \text{chase}(x,y)]]]$

(4) $[\bigcap D \mid \text{GEN} [s x y \mid x=\text{cat}(s), y=\text{mouse}(s) ; \exists e[e \mid e: \text{chase}(x,y)]]]$

Here, (2) states that for situations *s* that contain a cat *x*, in general there are events *e* such that there is a mouse *y* in *e* and *x* chases *y*. This is in effect a generalization about cats. In contrast, (4) states that in general for situations *s* that contain a cat *x* and a mouse *y*, there are events *e* such that *x* chases *y*. This leads to a subtle difference in their interpretation, ‘a cat has the tendency to chase mice’ vs. ‘if a cat encounters a mouse, the cat chases the mouse’.

We offer several extensions of this picture of generic sentences. First, subject NPs have similar interpretational options as direct objects, except that their scrambling from the vP is not flagged by *ro*. Example (5) illustrates a vP-internal subject NP in a progressive present sentence with *mi*-marking, and example (6) illustrates an vP-external subject that can be interpreted as definite or as generic. Cases with direct objects like (1)-(4) and with subjects (5)-(6) share the prosodic property that the vP forms its own intonation phrase, with accent on the left edge of the vP. The syntactic portion outside of the vP such as the restrictor in a generic sentence, forms a separate intonation phrase. – Second, we show that genuine cases of kind reference do not involve the GEN operator; they do not require *mi*-, and presuppose that the kind individual is available in the set of accessible entities D, cf. (7). – Third, we discuss *yek*-marked nouns as indefinites that, when they compete with dependent-definite bare nouns, tend towards a wide-scope interpretation, cf. (8). For this reason, they tend to not be interpreted as in the scope of GEN, even though this is possible, especially in scientific texts, possibly as an English or French influence, cf. (9) in a formal register. – Fourth, we will consider plural-marked nouns that can occur as kind-referring or indefinite expressions inside or outside the vP in episodic and generic sentences, cf. (10). As vP-internal objects they lead to a pluractional interpretation, which is evidence that the plural marker *-ha*, even though it is attached to the object, scopes over the whole vP, cf. (11).

- (5) Listen! [_S [_{VP} GORBEH mew mew mi-koneh]]
 [$\cap D \mid \exists [e \ x \mid x=\text{cat}(e), e: \text{meow}(x)]$]
 ‘A cat is / Cats are meowing’ (similar to a except for present progressive)
- (6) [_S gorbeh [_{VP} MEW MEW mi-koneh]]
 a. [$\cap D \ x \mid x=\text{cat}(D), \exists [e \mid e: \text{meow}(x)]$] ‘The cat is meowing.’
 b. [$\cap D \mid \text{GEN} [s \ x \mid x=\text{cat}(x) ; \exists [e \mid e: \text{meow}(x)]$] ‘A cat meows’ / ‘Cats meow.’
- (7) [_S Sumeri-ha charkh₁-ro [_{VP} t₁ ekhtera kardand]]
 [$\cap D \ x \ y \mid x=\text{Sumerians}_k(D), y=\text{wheel}_k(D), \exists [e \mid e: \text{invent}(x, y)]$]
 ‘The Sumerians invented the wheel.’
 where Sumerians_k(D) the kind of Sumerians, wheel_k(D)
- (8) [_S gorbeh [_{VP} YEK MOOSH shekar kard]]
 [$\cap D \ x \ y \mid x=\text{cat}(D), \exists [e \mid \text{mouse}(y), e: \text{chase}(x, y)]$]
 ‘The cat chased a mouse.’
- (9) *yek pestandar nozad-e-khod rā BA SHIR taghzieh mi-konad.*
 ‘a mammal feeds its offspring with milk.’
- (10) [*gorbeh-ha moosh-ha* ro [_{VP} SHEKAR mi-konand]]
 a. ‘Cats chase mice’, b. ‘The cats chase the mice’
- (11) *Maryam KETAB-HA kharid*
 ‘Maryam bought books at different occasions.’

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