

**NOMINAL ARGUMENT STRUCTURE AND THE
STAGE-/INDIVIDUAL-LEVEL CONTRAST IN
HINDI-URDU**

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Abstract

This paper focuses on a very specific aspect of a construction in Hindi-Urdu involving the verb *ho* ‘be’. The construction was previously described as displaying a pattern of differential case marking (DCM) in the literature, expressing specific semantic effects. These effects were previously compared to the contrast known as the stage-/individual-level contrast. The paper will show, however, that this view does not take into account various syntactic and semantic facts about this construction, and argues for a more differentiated view: what has been regarded as a single construction to be differentiated only by the case marking, should rather be treated as two separate constructions with differences in the nominal argument structure, case marking and semantics.

1 Introduction

This paper focuses on a very specific aspect of a construction in Hindi-Urdu involving the verb *ho* ‘be’. The construction was previously described as displaying a pattern of differential case marking (DCM) in the literature, resulting in specific semantic effects. The paper will show, however, that this view does not take into account various syntactic and semantic facts about this construction, and argues for a more differentiated view: what has been regarded as a single construction to be differentiated only by the case marking, should rather be treated as two separate constructions with differences in the nominal argument structure, case marking and semantics.

2 The Data

In this section, I give a brief overview of the data. The construction which is the focus of this paper is as follows. An oblique subject marked by either the dative case marker *ko* ((1a), (2a)) or the locative case marker *mē* ‘in’ ((1b), (2b)) is followed by a noun and the verb *ho* ‘be’. As noted by e.g. Mohanan (1994), the interpretation depends on the choice of the case marker on the subject. While the sentences refer to a temporary state when the subject is marked with the dative case, they denote more permanent properties with locative subjects. Mohanan (1994) concludes that these cases exhibit a pattern of differential case marking (DCM), arguing that the case markers encode different configurations in a semantic field, resulting in the different semantics. She compares the semantic effects to those encoded by the stage-/individual-level contrast (Carlson, 1977; Kratzer, 1995); see the quote in (3).¹

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¹The abbreviations in the glosses are as follows: 1/2/3 – 1st/2nd/3rd person, Acc – accusative, Comp – complementizer, Dat – dative, Erg – ergative, exp – experiencer argument, F – feminine, Inst – instrumental, Loc – locative, loc – locative argument, M – masculine, Nom – nominative, Obl – oblique, Perf – perfect, Pl – plural, Pres – present, Sg – singular, src – source argument, th – theme argument.

- (1) a. nina=ko b^hay hε
 Nina.F.Sg=Dat fear.M.Sg=Nom be.Pres.3.Sg
 ‘Nina is afraid.’ Mohanan (1994, p. 172)
- b. nina=mē b^hay hε
 Nina.F.Sg=Loc_{in} fear.M.Sg=Nom be.Pres.3.Sg
 ‘Nina is fearful.’ (lit. ‘There is fear in Nina.’) Mohanan (1994, p. 172)
- (2) a. nina=ko pyar hε
 Nina.F.Sg=Dat love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is in love.’
- b. nina=mē pyar hε
 Nina.F.Sg=Loc_{in} love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is in love.’ (lit. ‘There is love in Nina.’)
- (3) While *-ko* encodes the abstract location of a temporary state, such as happiness or worry, or a temporary fear [...], *-mā [-mē]* expresses the location of a characteristic attribute that is relatively permanent, such as a fearful disposition [...]. When the state is inherently temporary, as in the event of a cough or a fever, the use of *-mā [-mē]* is disallowed, perhaps because abstract containment cannot be extended to temporary states. Mohanan (1994, p. 172)

However, serious problems for this analysis are presented by examples as in (4). Here, an additional argument marked by the instrumental case marker *se* is introduced. Notice that the sentences are grammatical only with the *ko*-marked subjects, but ungrammatical with the *mē*-marked subjects. The original assumptions by Mohanan (1994) do not predict this; if the only difference were in the choice of the case marker, we would simply predict a different interpretation, but not ungrammaticality. For example, we would expect that (4b) expresses a more permanent fear relation towards *yasin* than (4a), but not the ungrammaticality of (4b). The only way to introduce the object of the fear/love relation in sentences with a locative subject is by inserting it with *ke liye* ‘for’, which is an adjunct marker in Hindi-Urdu.

- (4) a. nina=ko yasin=se bahut b^hay hε
 Nina.F.Sg=Dat Yassin.M.Sg=Inst much fear.M.Sg=Nom be.Pres.3.Sg
 ‘Nina is afraid of Yassin.’
- b. *nina=mē yasin=se bahut b^hay
 Nina.F.Sg=Loc_{in} Yassin.M.Sg=Inst much fear.M.Sg=Nom
 hε
 be.Pres.3.Sg
- c. nina=ko yasin=se bahut pyar hε
 Nina.F.Sg=Dat Yassin.M.Sg=Inst much love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is in love with Yassin.’

- d. *nina=mē yasin=se bahūt pyar
 Nina.F.Sg=Loc_{in} Yassin.M.Sg=Inst much love.F.Sg=Nom
 hε
 be.Pres.3.Sg
- e. nina=mē yasin=ke liye bahūt pyar hε
 Nina.F.Sg=Loc_{in} Yassin.M.Sg=for much love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina carries much love (in her) for Yassin.’ ~ ‘Nina is in love with
 Yassin.’

Similar problems emerge when we vary the other noun involved in this construction: the noun describing the relation/the feeling. Consider (5), for example. In contrast to the examples above, even without specifying an additional argument, a locative subject is ruled out.

- (5) a. nina=ko talaš hε
 Nina.F.Sg=Dat search.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is searching.’
- b. *nina=mē talaš hε
 Nina.F.Sg=Loc_{in} search.F.Sg=Nom be.Pres.3.Sg

Again, assuming solely a pattern of DCM resulting in a semantic contrast does not give the full picture: we would simply predict a different interpretation (something along the lines of (6b) expressing a more permanent state of “being in search” than (6a)), but not ungrammaticality of (6b). To explain these effects, we are in need of a new analysis.

2.1 Some Generalizations and Open Questions

At this point, I lay out some basic generalizations about the data. We can observe the following:

- Introducing source arguments is only felicitous with dative subjects.
- Certain abstract nouns are only felicitous with one kind of subject (e.g., *talaš* ‘search’ is only acceptable with a dative subject).
- The examples we have looked at so far all seem to involve a specific category of relational nouns (e.g., *love*, *fear*, *hate*, *search*, *regret*, etc.) and animate subjects.
- The stage-/individual-level contrast does not suffice to explain the observed effects.

I also formulate some questions to be answered in the remainder of this paper:

- If the stage-/individual-level contrast is indeed not primarily responsible for choosing among the case markers — what is?

- If there are indeed different *constructions* at the backend of the *ko* vs. *mē* examples — how do they differ? And what can all of this tell us about the syntax and semantics of Hindi-Urdu?
- What should a formal treatment of this look like?

The verb *ho* ‘be’ in Hindi-Urdu may either function as a copula verb connecting a subject to its predicate, or as a light verb taking part in complex predicate (CP) formation.² Thus, a good starting point for taking a closer look at the data (and, eventually, analyzing the structure within) seems to be the theory of CP formation and how it contrasts with copula constructions (Section 3).

The remainder of this paper is structured as follows. In Section 3, I discuss complex predicates in Hindi-Urdu, setting them apart from copula constructions; the differences in these two types of constructions are essential for the purpose of this paper. Section 4 provides an overview of locative copula constructions in Hindi-Urdu, showing that these have several features in common with the data we have seen above. In Section 5, I take a detailed look at different classes of Hindi-Urdu nouns and argue that the differences in these classes with respect to argument selection ultimately account for the data above. A novel analysis using Mapping Theory is then presented in Section 6. Furthermore, I discuss the semantics of the different constructions in Section 7. I conclude in Section 8.

3 Complex Predicates and Copula Constructions

Hindi-Urdu has about 700 simple verbs (Humayoun, 2006). As is the case in other South Asian languages, Hindi-Urdu uses a variety of different types of complex predicates (CPs) to express its full range of verbal predication. These CPs may be formed using different combinations of parts of speech: noun-verb, verb-verb, adjective-verb, preposition-verb. The verbs involved in the CPs have often been referred to as “light verbs” since they neither retain their full semantic predicational content, nor are they semantically empty; they seem to work like a licenser for the other, semantically more fundamental part of the CP, nevertheless retaining some semantics of their own (Butt, 2010). CPs in Hindi-Urdu have been thoroughly examined and analyzed in a bulk of work, for example Hook (1974); Singh (1990); Mohanan (1994); Butt (1995, 2010); Ahmed and Butt (2011) and references in all of these.

A major step in analyzing the data reviewed above is to determine their syntactic status: whether they form CPs or not. A starting point is the definition of a CP given in Butt (1995, p. 2), repeated below:

- The argument structure is complex (two or more semantic heads contribute arguments).
- The grammatical functional structure is that of a simple predicate. It is flat: there is only a single predicate (a nuclear pred) and a single subject.

²*ho* ‘be’ may also function as an auxiliary in Hindi-Urdu, but this use is not of immediate importance for this paper.

- The phrase structure may be either simple or complex. It does not necessarily determine the status of the complex predicate.

An example is given in (6) and in the functional structure in Figure 1. Here, we have a noun-verb CP; the argument structure is complex in that the light verb *lag* ‘attach’ selects two arguments (the “attachee” and the thing the attachee is attached to), and the noun *ḍar* ‘fear’ selects one argument (the thing being feared). This results in the complex argument structure of (1), where the main PRED is composed of the light verb *lag* and the noun *ḍar*. The grammatical functional structure of the sentence, though, is flat in that there is only a single main predicate and a single subject and there are no embeddings.³

- (6) *nadya=ko* *haṭ^hi=se* *ḍar* *lag-a*
 Nadya.F.Sg=Dat elephant.M.Sg=Instr fear.M.Sg=Nom attach-Perf.M.Sg
 ‘Nadya was frightened by the elephant.’

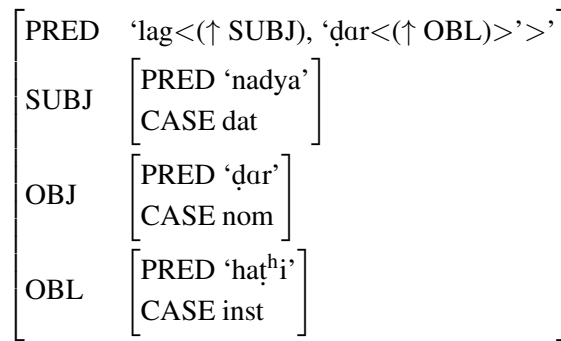


Figure 1: F-Structure for (6)

Recall that the verb *ho* ‘be’ in Hindi-Urdu may be used in different ways: as a light verb in CP constructions or as a copula verb. An extensive discussion of the different usages of *ho* ‘be’ in Urdu is given in Raza (2011). The issue which arises in connection to this paper is: how can we distinguish between the light verb and copula usages?

3.1 Tests for Complex Predicatehood

Butt (1995) provides several diagnostics for CPs based on agreement, control and anaphora. The tests are designed so as to distinguish monoclausal, non-embedding CP structures from polyclausal, embedding, non-CP structures. However, the tests identified by Butt do not give an answer to the open question whether the sentences constitute copula constructions (XCOMP/PREDLINK in LFG terms, depending on how you think about copula predication (Butt et al., 1999; Dalrymple et al., 2004;

³In fact, a recent dependency banking effort for complex predicates suggests that CP predicates be rewritten (i.e., as *ḍar-lag* in the case of (6)) when banking the structures for further processing to reflect their syntactic and semantic behavior as unities (Ahmed et al., 2012).

Attia, 2008)) or CPs. This is because the constructions in (2)–(5) are unmistakably monoclausal in nature, e.g., there is only a single verbal element and they have only a single subject. A more promising syntactic test for distinguishing copula constructions and CPs concerns coordination.

The Coordination Test When *ho* ‘be’ acts as a light verb in a noun-verb CP, the noun is in itself a predicator that introduces an argument. According to Raza (2011), the nominal predicators in noun-verb CPs may not be coordinated; this is especially clear in cases where the nominal introduces a clausal argument. (7) shows such examples. While (7a) is grammatical, the coordination of the nominal predicator as in (7b) is not felicitous.

- (7) a. *ali=ko xabar he [kih ...*
 Ali.M.Sg=Dat news.M.Sg=Nom be.Pres.3.Sg Comp ...
 ‘Ali knows that ...’
- b. **ali=ko xabar ya xusa he*
 Ali.M.Sg=Dat news.M.Sg=Nom or anger.M.Sg=Nom be.Pres.3.Sg
 [kih ...
 Comp ...

Coordination, however, is possible in copula constructions. Crucially, coordination is also possible in (8c) and (8d), where the subject bears locative case. Coordination thus serves as a test for distinguishing noun-verb CPs from copula constructions.

- (8) a. *nina g^har=mẽ he*
 Nina.F.Sg=Nom house.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘Nina is in the house.’
- b. *nina g^har=mẽ ya bag=mẽ he*
 Nina.F.Sg=Nom house.M.Sg=Loc_{in} or garden.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘Nina is in the house or in the garden.’
- c. *g^har=mẽ (ek) cuha ya (ek) kotta*
 house.M.Sg=Loc_{in} (one) rat.M.Sg=Nom or (one) dog.M.Sg=Nom
 he
 be.Pres.3.Sg
 ‘A rat or a dog is in the house.’ (lit. ‘There is a rat or a dog in the house.’)
- d. *nina=mẽ pyar ya b^hay he*
 Nina=Loc_{in} love.F.Sg=Nom ya fear.M.Sg=Nom be.Pres.3.Sg
 ‘Nina is in love or fear.’ (lit.: ‘There is love or fear in Nina.’)

The coordination facts suggest a structural difference between the constructions examined. A CP analysis seems right for the part of the data that exhibits complex argument structures — so distinguishing between CP and copula constructions essentially boils down to the question: do all of the data exhibit complex argument structures?

4 Interlude: Locatives in Hindi-Urdu

Let us briefly review what is known about locative constructions in Hindi-Urdu. Locative predication in Hindi-Urdu is achieved via the frame in (9). I assume the copula *ho* ‘be’ may select a theme and a location; this is a cross-linguistically valid assumption (Bresnan and Kanerva, 1989; Curnow, 1999; Pustet, 2003). A linking analysis using Lexical Mapping Theory (LMT) (Bresnan and Kanerva, 1989; Bresnan and Zaenen, 1990; Bresnan, 2001) is provided in Figure 2.

(9) *ho* < *th* *loc* >

(10) *nina* *g^har=mē* *hε*
 Nina.F.Sg=Nom house.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘Nina is in the house.’

<i>ho</i>	<	<i>th</i>	<i>loc</i>	>
intrinsic defaults		 [-r]	 [-o] [+r]	
well-formedness		OBJ/SUBJ SUBJ	OBL _{loc} OBL _{loc}	
case		 nom	 loc	

Figure 2: Linking analysis for predicative locatives

In Hindi-Urdu the locative case-marked phrase (i.e., the location) may also be realized as the sentence’s subject. Compare (11a) to the inverted example in (11b); in (11a), the nominative theme is realized as the subject, while in (11b) the location is realized as the subject. Mohanan (1994) presents evidence that the locative in (11b) is in fact the subject of the sentence and I adopt this view.

(11) a. *kūṭṭa* *g^har=mē* *hε*
 dog.M.Sg=Nom house.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘The dog is in the house.’

b. *g^har=mē* (ek) *kūṭṭa* *hε*
 house.M.Sg=Loc_{in} (one) dog.M.Sg=Nom be.Pres.3.Sg
 ‘A dog is in the house.’ (lit. ‘There is a dog in the house.’)

Looking at sentences such as (11a) and (11b) more closely, we notice a difference concerning discourse structure. If the theme is realized as the subject, it must be a definite referent (i.e., a referent already given in the discourse) as in (11a). On the other hand, if the location is realized as the subject, the theme must not be a

definite referent, but must be an indefinite one, as in (11b). (11b) can not mean *The dog is in the house*. Consider the dialogues in (12) and (13). The answers marked by ‘???’ are not felicitous in the course of the dialogue.

- (12) a. *kṛṭṭa* *aḥan* *hɛ*
 dog.M.Sg=Nom where be.Pres.3.Sg
 ‘Where is the dog?’
- b. *kṛṭṭa* *g^har=mē* *hɛ*
 dog.M.Sg=Nom house.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘The dog is in the house.’
- c. ??? *g^har=mē* *kṛṭṭa* *hɛ*
 house.M.Sg=Loc_{in} dog.M.Sg=Nom be.Pres.3.Sg
 ‘A dog is in the house.’ (lit. ‘There is a dog in the house.’)
- (13) a. *g^har=mē* *kṛya* *hɛ*
 house.M.Sg=Loc_{in} what be.Pres.3.Sg
 ‘What is in the house?’
- b. *g^har=mē* (ek) *kṛṭṭa* *hɛ*
 house.M.Sg=Loc_{in} (one) dog.M.Sg=Nom be.Pres.3.Sg
 ‘A dog is in the house.’ (lit. ‘There is a dog in the house.’)
- c. ??? *kṛṭṭa* *g^har=mē* *hɛ*
 dog.M.Sg=Nom house.M.Sg=Loc_{in} be.Pres.3.Sg
 ‘The dog is in the house.’

These examples point strongly to a difference in discourse structure between (12c) and (13c). Discourse structure in Hindi-Urdu is reflected by word order; while topics occur in clause-initial position, the focus position in Hindi-Urdu is generally immediately preverbal (Butt and King, 1997). This generalization is borne out by the data in (12) and (13). The sentences marked by ‘???’ are not felicitous as they focus the wrong part of the clause in response to the question. Furthermore, the definiteness effects are predicted under this analysis — topics are referents given in discourse (and may therefore be definite) while focused constituents are new information (and may therefore not be definite).

Locative Inversion I make the following proposal. Hindi-Urdu has locative inversion, cf. Bresnan and Kanerva (1989): in cases of locative inversion, the theme role is optionally classified as objective (the reason for which is discussed below), thus rendering the locative as a subject and the theme as an object. Bresnan and Kanerva (1989) motivate this optional assignment in terms of discourse functions: inverted locatives have a presentational function whereby the theme is focussed, thus the locative role must be realized as the subject/topic. By well-formedness conditions, the theme is classified as the object/focus. Kibort (2007) argues instead that the theme must receive [+o] and is realized as an object (‘demotion of subject to an object’), leaving the locative to become the subject by well-formedness

conditions. Although the two solutions result in the same GF assignment, it seems more intuitive to further specify the theme argument, as this is the one being focussed (compared to the solution put forward by Bresnan and Kanerva (1989)). I adapt Kibort's approach to locative inversion, shown in Figures 3 and 4.

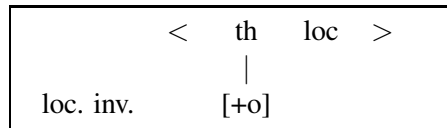


Figure 3: Optional classification for locative inversion (Kibort, 2007)

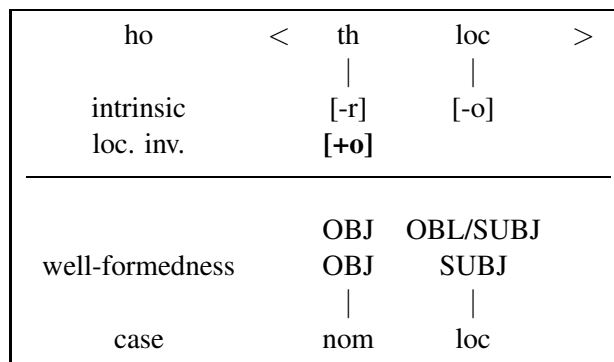


Figure 4: Linking analysis for inverted locatives

Now, note the following similarities between examples like (1b) and (2b), repeated here in (15) and (16). My argument is that they in fact represent the same construction. The claim that the argument structure of (15) is in fact simple (and not complex as in CPs) will receive further reasoning in the next section.

- (14)
1. locative (not dative) case marking;
 2. existential interpretation/indefinite theme;
 3. simple argument structure;
 4. verb *ho* 'be'.
- (15) a. nina=mē b^hay hε
 Nina.F.Sg=Loc_{in} fear.M.Sg=Nom be.Pres.3.Sg
 'Nina is fearful.' (lit. 'There is fear in Nina.') Mohanan (1994, p. 172)
- b. nina=mē pyar hε
 Nina.F.Sg=Loc_{in} love.F.Sg=Nom be.Pres.3.Sg
 'Nina is in love.' (lit. 'There is love in Nina.')
- (16) g^har=mē (ek) kūtṭa hε
 house.M.Sg=Loc_{in} (one) dog.M.Sg=Nom be.Pres.3.Sg
 'A dog is in the house.' (lit. 'There is a dog in the house.')

5 Nominal Argument Structure

It has long been known that nouns across languages may take arguments (Chomsky, 1970; Higginbotham, 1983; Grimshaw, 1990, among others). The crucial point here for our purposes is that many nouns are in fact ambiguous between interpretations in which they realize arguments and other interpretations in which they do not (Grimshaw, 1990). Other nouns are not ambiguous in this respect; some nouns never allow arguments, while some nouns always require arguments. In this section, I argue that there is evidence from semantics that Hindi-Urdu has all of these, and that ultimately, it is this diversity in nominal argument structure that makes for the differences discussed above.

5.1 Ambiguous Nouns

5.1.1 Argument-Taking Uses

In certain contexts, relational nouns in Hindi-Urdu such as *nafrat* ‘hate’/*pyar* ‘love’ allow oblique arguments marked by the instrumental case marker *se*.

(17) *mujhe (billyō=se) nafrat he*
I.Obl.Dat (cat.F.Pl.Obl=Inst) hate.F.Sg=Nom be.Pres.3.Sg
~ ‘I hate (cats).’

(18) *nina=ko (yasin=se) pyar he*
Nina.F.Sg=Dat (Yassin.M.Sg=Inst) love.F.Sg=Nom be.Pres.3.Sg
‘Nina is in love (with Yassin).’

Native speakers inform me that in (17a)/(18a), it is always understood that Nina’s love/hate is *directed at someone/something specific*. Hindi-Urdu makes use of pro-drop (all arguments may in principle be dropped) (Butt, 1995; Butt and King, 2007), which explains why the *se*-marked nominal may be absent. Notice that we have dative case marking on the subject in all these cases; since the copula does not license dative case on its arguments, we must assume the dative (experiencer) case is licensed by the relational noun (*nafrat/pyar*).

5.1.2 Non-Argument-Taking Uses

In other contexts, the same abstract relational nouns never allow any oblique arguments. These are exactly the cases where we have locative case marking on the subject.

(19) a. *mujh=mē nafrat he*
I.Obl=Loc_{in} hate.F.Sg=Nom be.Pres.3.Sg
~ ‘I hate.’

b. **mujh=mē billyō=se nafrat he*
I.Obl=Loc_{in} cat.F.Pl.Obl=Inst hate.F.Sg=Nom be.Pres.3.Sg

- (20) a. nina=mẽ pyar hε
 Nina.F.Sg=Loc_{in} love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is in love.’
- b. *nina=mẽ yasin=se pyar hε
 Nina.F.Sg=Loc_{in} Yassin.M.Sg=Inst love.F.Sg=Nom be.Pres.3.Sg

According to native speaker judgement, in (19a)/(20a), the emphasis in the utterance is on the *feeling by itself*; crucially, it is not immediately understood that the *hate/love* relations have objects in these sentences. In these sentences, *pyar* ‘love’ expresses a more detached and somewhat more concrete reading than in the sentences with a dative subject. The difference can be compared to the one between R-nouns and Ev-nouns put forward by Grimshaw (1990). According to Grimshaw’s account, two types of nominalizations may be distinguished: complex event nouns (Ev-nouns) that retain the properties of their verbal base, and result nouns (R-nouns) in which those properties are no longer transparent. I conclude that these nouns have a concrete reading where they do not realize the object argument (i.e., the argument expressing the direction of the feeling).

5.2 Unambiguous Nouns

5.2.1 Obligatorily Argument-Taking Nouns

Nouns such as *talaš* ‘search’ seem to obligatorily select arguments. They are not allowed to appear with locative subjects as in (21b), but only with dative subjects as in (21a). They seem to be inherently relational, selecting for an experiencer and an (optionally expressed) source. Even when the source argument marked by *se* is not realized, it is always understood that the event expressed by the noun is directed at someone/something.

- (21) a. nina=ko (yasin=se) talaš hε
 Nina.F.Sg=Dat Yassin.M.Sg=Inst search.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is searching (for Yassin).’
- b. *nina=mẽ talaš hε
 Nina.F.Sg=Loc_{in} search.F.Sg=Nom be.Pres.3.Sg

In Hindi-Urdu, a search is not a search without being experienced by someone and being directed at something. This explains the ungrammaticality of (21b): the experiencer argument licensed by the nominal *talaš* ‘search’ cannot be assigned locative case, since there is no locative role. This points to a distinction between locatives and experiencers and presents evidence against a view that unites locatives and experiencers (e.g., Landau, 2010). I return to this issue in Section 7.

5.2.2 Obligatorily Non-Argument-Taking Nouns

Other nouns such as *acc^hai* ‘goodness’ may only appear with a single locative argument realized as the subject; these nouns may never appear with dative subjects as in (22b), nor with additional source arguments as in (22c).

- (22) a. *nina=mẽ* *acc^{hi}* *he*
 Nina.F.Sg=Loc_{in} goodness.F.Sg=Nom be.Pres.3.Sg
 ‘Nina is good/a good person.’ (lit. ‘There is goodness in Nina.’)
- b. **nina=ko* *acc^{hi}* *he*
 Nina.F.Sg=Dat goodness.F.Sg=Nom be.Pres.3.Sg
- c. **nina=mẽ* *yasin=se* *acc^{hi}* *he*
 Nina.F.Sg=Loc_{in} Yassin.M.Sg=Inst goodness.F.Sg=Nom be.Pres.3.Sg

I assume that inherently non-relational nouns such as *acc^{hi}ai* ‘goodness’ do not select for arguments, since they are not directed at anyone; they are, of course, abstract in nature, which is a lexical property setting them apart from concrete nouns such as *kitab* ‘book’, but syntactically (i.e. regarding argument selection) these two kinds of nouns work alike.

5.3 Intermediate Summary

We have identified four different classes of nouns with respect to argument selection for Hindi-Urdu. The classes are depicted in Table 4. We also have identified two different patterns of experiencer constructions. In the first pattern, which I will call the “dative experiencer construction” (DEC), the subject is dative, the noun is relational, licensing both an experiencer and a source argument, and the argument structure is complex; *ho* ‘be’ in these cases is a light verb, forming a CP with the predicative noun. The second pattern, which I will call the “locative experiencer construction” (LEC), is entirely different in that the subject is locative in an inverted locative construction and the argument structure is simple; *ho* ‘be’ here is a copula verb, selecting for a theme and a location.

nouns	ambiguous	realize arguments (relational <i>pyar</i> ‘love’, <i>b^hay</i> ‘fear’)
		do not realize arguments (non-relational <i>pyar</i> , <i>b^hay</i>)
	not ambiguous	always realize arguments (<i>talaš</i> ‘search’)
		never realize arguments (<i>acc^{hi}ai</i> ‘goodness’, <i>kitab</i> ‘book’)

Table 1: Overview of Hindi-Urdu noun classes wrt. argument selection

6 A Novel Analysis Using Mapping Theory

In this section, I present an analysis of the two patterns identified above (DECs and LECs) in terms of Mapping Theory as described in e.g. Butt (1995); Alsina (1996); Butt et al. (1997); Butt (1998). That is, I adopt amendments to original Lexical Mapping Theory, which was reformulated as Mapping Theory by e.g. Butt (1995)

and Alsina (1996) to account for the formation of complex predicates. In particular, I assume argument fusion as triggered by a pertinent characteristic of light verbs, namely the transparent event argument ev_T . It is this argument that models the “semantically bleached” nature of light verbs. Essentially, CP formation must take place if ev_T is present (Butt, 1995). Case in this framework is seen as a separate system interacting with linking principles and clausal semantics, but not wholly determining them (Butt, 1998).

My analysis makes use of two different frames for the copula *ho* ‘be’: a locative copula frame and a light verb frame used for CP formation. My assumptions about case are as follows. An ev_T argument never receives case marking: it always bears nominative case (Butt, 1995). Relational nouns, on the other hand, may license case depending on their argument structure: experiencers receive dative case (Butt et al., 2006), sources take instrumental case, locations receive locative case.

6.1 Predicative Locatives

First, let’s review predicative locatives. An example is given in (23). As discussed above, the theme must be definite for this particular linking to be realized. The linking analysis is given in Figure 5.

- (23) *admi kamre=mẽ hɛ*
 man.M.Sg=Nom room.M.Sg.Obl=Loc_{in} be.Pres.3.Sg
 ‘The man is in the room.’

ho	<	th	loc	>
intrinsic defaults		 [-r]	 [-o] [+r]	
well-formedness		OBJ/SUBJ SUBJ	OBL _{loc} OBL _{loc}	
case		 nom	 loc	

Figure 5: Linking analysis for predicative locatives

6.2 Inverted Locatives, Locative Experiencer Constructions

The linking for inverted locatives such as (24) is given in Figure 6. This is also the frame used for the LECs as in (25). As we have seen above, the theme argument in both (24) and (25) must be indefinite and receives the [+o] feature in the linking process, which causes it to be realized as an object. If the theme is a relational noun such as *b^hay*, it may not realize its arguments in the clause, as discussed in Section 5.1.2. The linking for the LEC in (25) is given in Figure 7.

(24) kamre=mē (ek) admi hε
 room.M.Sg.Obl=Loc_{in} (one) man.M.Sg=Nom be.Pres.3.Sg
 ‘There is a man in the room.’

(25) nina=mē b^hay hε
 Nina.F.Sg=Loc_{in} fear.M.Sg=Nom be.Pres.3.Sg
 ‘Nina is fearful.’ (lit.: ‘There is fear in Nina.’) Mohanan (1994:172)

ho	<	th	loc	>
intrinsic				
loc. inv.		[-r]	[-o]	
		[+o]		
<hr/>				
well-formedness		OBJ	OBL/SUBJ	
		OBJ	SUBJ	
case		nom	loc	

Figure 6: Linking analysis for inverted locatives

ho	<	th	loc	>				
pyar	<	exp	src	>				
ho	<	pyar	<	exp	src	>	loc	>
intrinsic								
loc.inv.		[-r]				[-o]		
		[+o]						
<hr/>								
well-formedness		OBJ				OBL/SUBJ		
		OBJ				SUBJ		
case		nom				loc		

Figure 7: Linking analysis for LEC

6.3 Dative Experiencer Constructions

Relational nouns such as *pyar* ‘love’ supply two arguments: an experiencer and a source. The resulting argument structure is complex, and complex predicate formation takes place. The highest argument of the embedded predicate is fused

with the lowest argument of the matrix predicate (Butt, 1995, 1998). The resulting frame and the linking is depicted in Figure 8.

- (26) *nina=ko yasin=se bahut pyar he*
 Nina.F.Sg=Dat Yassin.M.Sg=Inst much love.F.Sg=Nom be.Pres.3.Sg
 ‘Nina carries much love (in her) for Yassin.’ ~ ‘Nina is in love with Yassin.’

<i>ho</i>	$<$	<i>th</i>	ev_t	$>$			
<i>pyar</i>	$<$	<i>exp</i>	<i>src</i>	$>$			
<i>ho</i>	$<$	<i>th</i>	<i>pyar</i>	$<$	<i>exp</i>	<i>src</i>	$>$ $>$
intrinsic defaults $\hat{\theta}$							
		[-r]	[-r]			[+r]	
well-formedness		SUBJ	OBJ/SUBJ			OBJ $_{\theta}$ /OBL $_{\theta}$	
		SUBJ	OBJ			OBL $_{\theta}$	
case		dat	nom			inst	

Figure 8: Linking analysis for experiencer complex predicate (I)

The matrix frame $ho < th \quad ev_t >$ is also selected for the “illness” examples such as (27) (linking analysis in Figure 9). The difference between these cases and the data involving relational nouns is obvious: in the “illness” examples, the predicative nominal selects a single experiencer argument, while in the examples involving relational nominals, the nominal selects two arguments: an experiencer and a source.

- (27) *nina=ko bahut k^hāsi he*
 Nina.F.Sg=Dat much cough.F.Sg=Nom be.Pres.3.Sg
 ‘Nina has a severe cough.’

6.4 Copula and Light Verb *ho* ‘be’

The present analysis thus gives us an idea of how the two different readings of Hindi-Urdu *ho* ‘be’ work. In one reading, *ho* is a copula verb selecting for a theme and a locative. The theme may be simple (Figure 6) or complex (Figure 7) regarding its argument structure, but even when it’s complex, its own arguments may not be realized in the clause, since the theme is not a transparent event (ev_t), and argument fusion cannot take place. This explains why a source argument (marked with *se*) may not be licensed in the clause.

In the other reading, *ho* is a light verb selecting for a theme and a transparent event (ev_t). In this frame, argument fusion must take place. The transparent

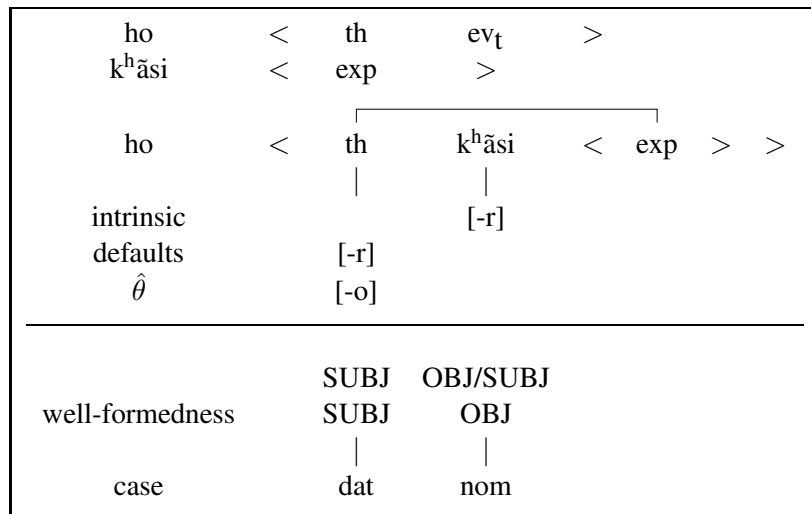


Figure 9: Linking analysis for experiencer complex predicate (II)

event may contribute one (Figure 9) or two arguments (Figure 8). The valency of the transparent event is determined by its lexical entry; relational nouns such as *pyar* ‘love’ supply two arguments, “illness” nouns such as *k^hāsi* supply a single argument. In both cases, the dative case on the subject is required by the experiencer argument of the noun. As argument fusion takes place, the additional source argument from the relational noun can be realized.

7 The Semantics of Sentient Locations

As argued above, under the present analysis of the constructions’ syntax, the semantics observed in the data are expected. Comparing my own analysis to the approaches of Mohanan (1994) and Landau (2010), the present analysis involves a strict distinction between locations (abstract or concrete) on the one hand versus experiencers on the other hand. While locations (whether sentient or not) get locative case, experiencers receive dative case. Emotional experiencers always also have a source at argument structure, which may be pro-dropped, while “illness” experiencers don’t involve a source. The different syntactic analyses in general, and the ambiguities observed in the argument-structure of Hindi-Urdu nominals in particular, give rise to differing semantic interpretations. The relational nouns may only realize their source argument in the CP construction, but in the copula construction, they never do so, hence the reading is a rather concrete one (as described in Section 5.1.2). While an individual-level vs. stage-level (or permanent vs. temporary) distinction as described by Mohanan (1994) suggests itself, it is the source argument which is not realized which renders the semantics of the overall clause more concrete and gives the sentence a less time-dependent flavor.

To formally describe the semantics of the LEC is not straightforward. While Landau (2010) suggests that all experiencers are nothing but syntactic locations,

this turns out to be only partly true for Hindi-Urdu. Experiencers are encoded using two separate syntactic constructions, namely a locative frame with locative case marking and a complex predicate frame with dative case marking, and they are used to convey quite different meanings. The next section expands on this.

7.1 A Scenario

To illustrate the differences in meaning, imagine you were part of an experiment on animals, and while you would not consider yourself averse to cats, the experimental setup would prove otherwise. The proposition expressed by (28a) would therefore be false, since by your internal judgment you would not subscribe to the fact that you hate cats; the statement in (28b) would still be true as shown by the experiment. That is, the sentences with dative subjects seem to describe more direct relations than the sentences with locative subjects.

- (28) a. #mujhe billiyō=se nafrat he
 I.Obl.Dat cat.F.Pl.Obl=Inst hate.F.Sg=Nom be.Pres.3.Sg
 ‘I hate cats.’
- b. mujh=mē billiyō=ke liye nafrat he
 I.Obl=Loc_{in} cat.F.Pl.Obl=for hate.F.Sg=Nom be.Pres.3.Sg
 ‘I hate cats.’ (lit. ‘There is hate in me against cats.’)

The examples show that the locatives with sentient subjects do not necessarily express more permanent states than the dative experiencer cases (as put forward by Mohanan (1994)), but rather more independent, objective and concrete descriptions of states. I maintain that the contrasts observed in the data cannot be analyzed simply by calling upon the stage-/individual-level contrast.

7.2 A Formal Semantic Treatment?

A formal semantic treatment, e.g., in terms of Glue logic (Dalrymple et al., 1993; Dalrymple, 1999; Asudeh, 2012), is in need of more research and outside of the scope of this paper. The LFG/Glue architecture in principle allows for a deliberate number of inferences for the different constructions. Asudeh and Giorgolo (this volume), for example, present an LFG/Glue analysis for optional arguments (29) and derived arguments (e.g., passive *by*-phrases (30), instrumental *with*-phrases (31)).⁴ Using flexible semantic composition in combination with generalizations over descriptions, Asudeh and Giorgolo enforce implications of optional and derived arguments at the syntax-semantics interface. For example, for the semantically transitive verb *drink*, they enforce the implication that the (missing) object is an alcoholic drink.

- (29) a. Any child of Kim’s is unfortunately likely to drink ___ .
 b. Kim ate ___ at 10 o’clock.

⁴The examples are due to Asudeh and Giorgolo (this volume).

(30) The hole was plugged by Kim.

(31) Kim plugged the hole with a cork.

The approach of Asudeh and Giorgolo (this volume) is relevant to the work presented in this paper inasmuch as this paper also deals with arguments that may or may not be realized in a sentence, and when they are not realized, the sentence carries certain connotations, as shown above. The exact nature of the implications, however, must be left for future work.

8 Conclusion

This paper has presented a treatment of Hindi-Urdu relational nouns at the syntax-semantics interface. Some of these nouns feature a complex argument structure, resulting in different syntactic and semantic behavior, depending on whether they occur with copular *ho* ‘be’ or light verb *ho* ‘be’; the difference is essentially one of copula constructions versus complex predicate formation (i.e., no argument fusion vs. argument fusion). The paper discussed the relevant data and presented an analysis using Mapping Theory. It showed that assuming a simple temporary/permanent distinction, triggered by the case markers involved, does not do full justice to the data, as the syntax and semantics are more detailed than it was assumed before. What must be left for future work is the exact makeup of the semantic restriction on the LECs (see Section 7).

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