When Copula Meets Case

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1 Introduction

- Ph.D. research project:[1]
  - **tackle several misconceptions about the syntax of the verb *ho* 'be' in Hindi/Urdu**
  - **develop a new typology of *ho*; establish sharp distinction between existential verb, copula, and light verb usages of *ho***
  - **reanalyze patterns of alleged "Differential Case Marking" (DCM) as involving structural differences instead**
  - **implement an LFG analysis of the typology**
- Background:
  - project on implementing a broad-coverage LFG grammar for Hindi/Urdu
  - a consistent treatment of *ho* was necessary, but: more difficult than at first glance
- Starting point: dissertation by Tara Mohanan on *Argument Structure in Hindi* (Mohanan, 1994); cites well-known cases of DCM in Hindi/Urdu; notes that overtly case-marked nominals are grammatical subjects and display patterns of (semantically motivated) DCM.
  - genitive/locative connection:

(1) a. nina=ka qɑlɑm hɛ
Nina.Fem.Sg=Gen.Masc.Sg pen.Masc.Sg be.Pres.3.Sg
'Nina has a pen.'

b. nina=ke pas qɑlɑm hɛ
Nina.Fem.Sg=Gen.Masc.Sg.Obl near pen.Masc.Sg be.Pres.3.Sg
'Near Nina is a pen.' = 'Nina has a pen.'

  - dative/locative connection:

(2) a. nina=ko b^hay hɛ
Nina.Fem.Sg=Dat fear.Masc.Sg be.Pres.3.Sg
'Nina is afraid.' Mohanan (1994, p. 172)

b. nina=mẽ b^hay hɛ
Nina.Fem.Sg=Loc_{in} fear.Masc.Sg be.Pres.3.Sg
'Nina is fearful.' (lit. 'There is fear in Nina.') Mohanan (1994, p. 172)

- **My main argument: such instances of alleged DCM involve structural differences instead, which give rise to three different readings of the verb *ho* 'be'.**
- Evidence for structural differences adduced from:
  - topicalization
  - argument selection
  - various tests for subjecthood

[1] I would like to thank my informants Qaiser Abbas, Tafseer Ahmed, Rajesh Bhatt, Miriam Butt, Asad Mustafa and Ghulam Raza for their valuable comments and grammaticality judgments. Their linguistic backgrounds differ; yet each of the data were confirmed by several of them.

2 Table of Contents — Dissertation

1. Introduction
2. Prerequisites
3. Hindi/Urdu Case in LFG
4. “Genitive Subjects” and the Copula
5. “Locative Subjects” and the Copula
6. The Genitive/Locative Connection
7. The Locative/Dative Connection } this talk
8. Implementing the Copula Typology in LFG
9. Discussion and Conclusion

3 Table of Contents — This Talk

1. Introduction √
2. Table of Contents — Dissertation √
4. Some Data and Observations
5. Problems with Mohanan’s (1994) Explanation
6. A Proposal
7. Complex Predicates in Hindi/Urdu
8. Locatives and Locative Inversion in Hindi/Urdu
9. Nominal Argument Structure
10. A Classification of Nouns — Towards an Analysis
11. Summary

4 Some Data and Observations

- Mohanan (1994): differences in subject case marking in (3) – (4) are instances of DCM:

(3) a. nina=ko bʰay hɛ
Nina.Fem.Sg=Dat fear.Masc.Sg be.Pres.3.Sg
‘Nina is afraid.’ Mohanan (1994, p. 172)

b. nina=mẽ bʰay hɛ
Nina.Fem.Sg=Loc_{in} fear.Masc.Sg be.Pres.3.Sg
‘Nina is fearful.’ (lit. ‘There is fear in Nina.’) Mohanan (1994, p. 172)

(4) a. nina=ko pyar hɛ
Nina.Fem.Sg=Dat love.Fem.Sg be.Pres.3.Sg
‘Nina is in love.’

b. nina=mẽ pyar hɛ
Nina.Fem.Sg=Loc_{in} love.Fem.Sg be.Pres.3.Sg
‘Nina is full of love.’ (lit. ‘There is love in Nina.’)

(5) a. nina=ko bɑhʊt kʰãsi hɛ
Nina.Fem.Sg=Dat much cough.Fem.Sg be.Pres.3.Sg
‘Nina has a severe cough.’ Mohanan (1994, p. 172)

b. * nina=mẽ bɑhʊt kʰãsi hɛ
Nina.Fem.Sg=Loc_{in} much cough.Fem.Sg be.Pres.3.Sg
Mohanan (1994, p. 172)

- Observations:
  - oblique subjects: either dative or locative case marking;
  - verb *ho* 'be';
  - abstract stative nouns: *pyar* 'love', *b^{h}ay* 'fear', *nɑfrɑt* 'hate' etc.;
  - illnesses: *k^{h}ãsi* 'cough', *bʊxar* 'fever' etc.;
  - for abstract stative nouns, case marking alternates between locative and dative;
  - for illnesses, dative case is obligatory, as in (5).

- Mohanan (1994), citing Kachru (1970) and Pandharipande (1981), was the first to acknowledge these patterns of case marking and gave the following explanation:

> While *-ko* encodes the abstract location of a temporary state, such as happiness or worry, or a temporary fear [...], *-mẽ* 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 *-mẽ* is disallowed, perhaps because abstract containment cannot be extended to temporary states [...]. Mohanan (1994, p. 172)

→ **the semantics of the case markers involved account for the different readings**

→ **dative *=ko* encodes temporary properties, locative *=mẽ* encodes permanent properties**

5 Problems with Mohanan's (1994) Explanation

- Various problems with Mohanan's (1994) explanation involving a pattern of (semantically motivated) DCM:
  - the explanation does not predict the ungrammaticality of (6b) over (6a)
  - if the only difference were in the choice of the case marker, 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)

(6) a. nina=ko tɑlaš hɛ
Nina.Fem.Sg=Dat search.Fem.Sg be.Pres.3.Sg
'Nina is searching.'

b. * nina=mẽ tɑlaš hɛ
Nina.Fem.Sg=Loc$_{in}$ search.Fem.Sg be.Pres.3.Sg

  - the explanation does not predict the ungrammaticality of (7b) over (7a)
  - if the only difference were in the choice of the case marker, we would simply predict a different interpretation (something along the lines of (7b) expressing a more permanent love relation towards *yasin* than (7a)), but not ungrammaticality of (7b)

(7) a. nina=ko yasin=se bɑhʊt pyar hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Inst much love.Fem.Sg be.Pres.3.Sg
'Nina carries much love (in her) for Yassin.' ~ 'Nina is in love with Yassin.'

b. * nina=mẽn yasin=se bɑhʊt pyar hɛ
Nina.Fem.Sg=Loc$_{in}$ Yassin.Masc.Sg=Inst much love.Fem.Sg be.Pres.3.Sg

6 A Proposal

- Novel explanation of the data based on a **difference in the argument structure of the nominals** involved
  - main argument: constructions in (3a) vs. (3b) and (4a) vs. (4b) not the same syntactically — differ in their argument structure
  - more specifically: they differ in their status as complex predicates (CPs); will argue that while (3a) and (4a) constitute CPs, (3b) and (4b) do not form CPs, but are copula constructions
  - (3a) and (4a): abstract stative nouns (b^hay 'fear' and *pyar* 'love'), taking two semantic arguments – an experiencer (dative-marked) and a source (instrumental-marked)
  - source does not surface in (3a) and (4a), but does surface in e.g. (7a)

  → **will refer to these as *dative experiencer constructions* in this talk**

  - (3b) and (4b): not complex predicates; stative nouns such as b^hay 'fear' and *pyar* 'love' seem to be ambiguous in Hindi/Urdu between a version where they realize their arguments and a version where they do not[2]
  - (3b) and (4b): essentially existential locative constructions in the sense of Freeze (1992); can be derived from predicate locatives via **locative inversion** (Freeze, 1992, Bresnan and Kanerva, 1989, Landau, 2010)

  → **will refer to these as *locative experiencer constructions* in this talk**

- Consider (8a) vs. (8b); I argue that syntactically, they are identical. The case marking and argument structure evidence supports this assumption. The only difference is that in (8a), the location is an abstract one in a sense, thus requiring a sentient subject.

(8) a. nina=mẽ bʰay hɛ
Nina.Fem.Sg=Loc$_{in}$ fear.Masc.Sg be.Pres.3.Sg
'Nina is fearful.' (lit.: 'There is fear in Nina.') Mohanan (1994, p. 172)

b. kɑmre=mẽ admi hɛ
room.Masc.Sg.Obl=Loc$_{in}$ man.Masc.Sg be.Pres.3.Sg
'There is a man in the room.' Freeze (1992, p. 555)

→ (3b), (4b), (8a) not analyzed as CPs in the sense of Butt (1995): their argument structure is not complex — the noun does not realize its arguments

- Consider (9a) vs. (9b). (9a) is a dative experiencer construction, (9b) a locative experiencer construction.

(9) a. nina=ko yasin=se bɑhʊt pyar hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Inst much love.Fem.Sg be.Pres.3.Sg
'Nina is in love with Yassin.'

b. nina=mẽ yasin=ke liye bɑhʊt pyar hɛ
Nina.Fem.Sg=Loc$_{in}$ Yassin.Masc.Sg=Gen.Masc.Sg.Obl for much love.Fem.Sg be.Pres.3.Sg
'Nina carries much love (in her) for Yassin.' ∼ 'Nina is in love with Yassin.'

→ (9a) is considered a N-V CP, since the noun *pyar* licenses a *se*-marked argument. (9b) is not considered a CP, since *pyar* does not contribute any arguments; the phrase marked by the complex postposition *ke liye* 'for' is a sentence-level adjunct — *ke liye* generally marks adjuncts in Urdu/Hindi.

[2]There are other nouns which are not ambiguous: some nouns never take arguments, other nouns obligatorily take arguments; more in Section 9.

7 Complex Predicates in Hindi/Urdu

- Complex predicates (CPs) are pervasive in Urdu/Hindi — the language has about 700 simple verbs, almost all other verbal predication is achieved via complex predication. CPs in Urdu/Hindi have been thoroughly analyzed in e.g. Butt (1995, 2003, 2010), Ahmed and Butt (2011), Mohanan (1994) and references in all of these.

→ major step in analyzing the data in (1)–(7): determine their status (i.e. whether they are CPs or not)

→ the definition of a complex predicate, given in Butt (1995, p. 2), is repeated below; based on this definition, we will examine the present data

7.1 Definition of a Complex Predicate

- The characteristics below are due to Butt (1995, p. 2).
  - 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.
  - The phrase structure may be either simple or complex. It does not necessarily determine the status of the complex predicate.

- An example for a noun-verb complex predicate is given in (10).

(10) nadya=ko haṭʰi=se ḍar lag-a
Nadya.Fem.Sg=Dat elephant.Masc.Sg=Instr fear.Masc.Sg attach-Perf.Masc.Sg
'Nadya was frightened by the elephant.'

  - complex *argument* structure: light verb *lag* 'attach' selects two arguments ("attachee" and "thing attached") , *ḍar* 'fear' one argument ("thing being feared");
  - simple *grammatical functional* structure: no embeddings;
  - light verb lag 'attach' assigns case to the subject, carries aspectual features, agrees.

$$\begin{bmatrix} \text{PRED} & \text{'lag<(↑ SUBJ), 'ḍar<(↑ OBL)>'>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED 'nadya'} \\ \text{CASE dat} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED 'ḍar'} \\ \text{CASE nom} \end{bmatrix} \\ \text{OBL} & \begin{bmatrix} \text{PRED 'haṭʰi'} \\ \text{CASE inst} \end{bmatrix} \end{bmatrix}$$

Figure 1: F-Structure for (10)

7.2 Polyclausal vs. Monoclausal Structures

- Butt (1995): provides CP tests based on agreement, control, anaphora; problem: the tests are designed so as to distinguish **monoclausal, non-embedding, CP** structures from **polyclausal, embedding, non-CP** structures

→ the constructions in (1)–(7) are unmistakably monoclausal in nature (only a single verbal element)

→ the open question is whether they constitute copula constructions (XCOMP/PREDLINK; a single predicate) or CPs (multiple predicates combining into a complex one)

7.3 Copula vs. CP Analysis — Coordination

- Raza (2011): lists several uses of the verb *ho* 'be'; mentions that *ho* may also be used as a light verb in noun-verb CPs; in these cases, the noun is in itself a predicator that introduces an argument.
- According to Raza (2011), the nominal predicators may **not** be coordinated, see (11); crucially, coordination is also not allowed in (11c), which is a dative experiencer construction
- Coordination is possible in copula constructions, see (12); crucially, coordination is also possible in (12d), which is a locative experiencer construction

(11) a. ɑli=ko xɑbɑr hɛ [kɪh ...
Ali.Masc.Sg=Dat news.Masc.Sg be.Pres.3.Sg Comp ...
'Ali knows that ...'

b. * ɑli=ko xɑbɑr or xʊsa hɛ [kɪh ...
Ali.Masc.Sg=Dat news.Masc.Sg and anger.Masc.Sg be.Pres.3.Sg Comp ...

c. * nina=ko yasin=se pyar or izzɑt hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Inst love.Fem.Sg and veneration.Fem.Sg be.Pres.3.Sg

(12) a. nina gʰɑr=mẽ hɛ
Nina.Fem.Sg house.Masc.Sg=Loc_{in} be.Pres.3.Sg
'Nina is in the house.'

b. nina gʰɑr=mẽ ya bag̣=mẽ hɛ
Nina.Fem.Sg house.Masc.Sg=Loc_{in} or garden.Masc.Sg=Loc_{in} be.Pres.3.Sg
'Nina is in the house or in the garden.'

c. gʰɑr=mẽ cuha ya kʊṭ̣ṭ̣a hɛ
house.Masc.Sg=Loc_{in} rat.Masc.Sg or dog.Masc.Sg 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 or bʰay hɛ
Nina.Fem.Sg=Loc_{in} love.Fem.Sg and fear.Masc.Sg be.Pres.3.Sg
'Nina is full of love and fear.' (lit.: 'There is love and fear in Nina.')

7.4 Copula vs. CP Analysis — Topicalization

- The nominal predicate in a N-V CP may not be topicalized (Mohanan, 1994, p. 206). See (13).

(13) a. nadya=ko haṭ̣ʰi=se ḍɑr lɑg-a
Nadya.Fem.Sg=Dat elephant.Masc.Sg=Instr fear.Masc.Sg attach-Perf.Masc.Sg
'Nadya was frightened by the elephant.'

b. * ḍɑr nadya=ko haṭ̣ʰi=se lɑg-a
fear.Masc.Sg Nadya.Fem.Sg=Dat elephant.Masc.Sg=Instr attach-Perf.Masc.Sg

- generally awkward to topicalize an experience in a locative experiencer construction; see (14).
- due to the fact that abstract concepts do not make for good topics: not easily quantifiable, most naturally occur as indefinites (Nicolas, 2010, Lasersohn, 2011)

(14) a. ram=mẽ mɑmta hɛ
Ram.Masc.Sg=Loc_{in} affection.Fem.Sg be.Pres.3.Sg
'In Ram is affection.' = 'There is affection in Ram.' = 'Ram has affection.'

b. ?? mɑmta ram=mẽ hɛ
affection.Fem.Sg Ram.Masc.Sg=Loc_{in} be.Pres.3.Sg

- however: far from being ungrammatical

- dialogue in (15):

(15) a. A: nina=mẽ jɑnwɑrõ=ke liye pyar hɛ
Nina.Fem.Sg=Loc$_{in}$ animal.Masc.Pl.Obl=Gen.Masc.Sg.Obl for love.Fem.Sg be.Pres.3.Sg
'Nina has love for/of animals (in her).' = 'Nina loves animals.'

b. B: pyar jɑnwɑrõ=ke liye ram=mẽ hɛ,
love.Fem.Sg animal.Masc.Pl.Obl=Gen.Masc.Sg.Obl for Ram.Masc.Sg=Loc$_{in}$ be.Pres.3.Sg
mɑgɑr nina=mẽ admiyõ=ke liye
but Nina.Fem.Sg=Loc$_{in}$ person.Masc.Pl.Obl=Gen.Masc.Sg.Obl for
pyar hɛ
love.Fem.Sg be.Pres.3.Sg
'The love for animals is within Ram, but in Nina there is love for people.'

→ these facts from coordination & topicalization already point to a structural difference between the constructions examined

→ a CP analysis seems right for the part of the data that exhibits complex argument structures

8 Locatives and Locative Inversion in Hindi/Urdu

- locative predication in Hindi/Urdu: achieved via the frame in (16) (includes a *theme* argument and a *locative* argument)

(16) ho < theme, locative >

(17) kʊʈ̤ta gʰɑr=mẽ hɛ
dog.Masc.Sg house.Masc.Sg=Loc$_{in}$ be.Pres.3.Sg
'The dog is in the house.'

- I assume the copula *ho* may select a theme and a location; this is a cross-linguistically valid assumption (Bresnan and Kanerva, 1989, Curnow, 1999, Pustet, 2003)

- Proposal: Urdu/Hindi has **locative inversion**, cf. Bresnan and Kanerva (1989), Kibort (2007): in cases of locative inversion, the theme role is optionally classified as objective, 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 (*What is in the house? – There is a rat in the house.*), thus theme must be realized as object (cf. Kibort, 2007) in this context

(18) gʰɑr=mẽ kʊʈ̤ta hɛ
house.Masc.Sg=Loc$_{in}$ dog.Masc.Sg be.Pres.3.Sg
'A dog is in the house.' (lit. 'There is a dog in the house.')

- predictions by Bresnan and Kanerva (1989) w.r.t. discourse borne out by Urdu/Hindi data: focus position generally immediately preverbal (Butt and King, 1997)

- dialog tests provide further evidence:

(19) a. ram=ka kʊtta hɛ
Ram.Masc.Sg=Gen.Masc.Sg dog.Masc.Sg be.Pres.3.Sg
'Of Ram is a dog.' = 'Ram has a dog.'

b. kʊtta kɑmre=mẽ hɛ
dog.Masc.Sg room.Masc.Sg.Obl=Loc$_{in}$ be.Pres.3.Sg
'The dog is in the room.'

c. ?? kɑmre=mẽ kʊtta hɛ
room.Masc.Sg.Obl=Loc$_{in}$ dog.Masc.Sg be.Pres.3.Sg

(20) a. kɑmre=mẽ kya hɛ
room.Masc.Sg.Obl=Loc$_{in}$ what be.Pres.3.Sg
'What is in the room?'

b. kɑmre=mẽ kʊtta hɛ
room.Masc.Sg.Obl=Loc$_{in}$ dog.Masc.Sg be.Pres.3.Sg
'In the room is a dog.'

c. ?? kʊtta kɑmre=mẽ hɛ
dog.Masc.Sg room.Masc.Sg.Obl=Loc$_{in}$ be.Pres.3.Sg

(21) a. kʊtta kɑhã hɛ
dog.Masc.Sg where be.Pres.3.Sg
'Where is the dog?'

b. kʊtta kɑmre=mẽ hɛ
dog.Masc.Sg room.Masc.Sg.Obl=Loc$_{in}$ be.Pres.3.Sg
'The dog is in the room.'

c. ?? kɑmre=mẽ kʊtta hɛ
room.Masc.Sg.Obl=Loc$_{in}$ dog.Masc.Sg be.Pres.3.Sg

- similarities between e.g. (3b) and (4b) and (18):
  1. **locative (not dative) case marking;**
  2. **simple argument structure;**
  3. **copula verb.**

→ **My argument is that they in fact constitute the same construction.**

9 Nominal Argument Structure

- it has long been known that nouns across languages may take arguments (Chomsky, 1970, Higginbotham, 1983, Grimshaw, 1990, among others)
- partition by Grimshaw (1990): nouns may be ambiguous between *complex event nominals* and *result nominals*

(22) a. the (constant) examination of the patients took a long time. complex event nominal
b. the (*constant) examination was on the table. result nominal

- complex event reading has argument structure, result reading does not; evidence from modifiers, argument control, *by* phrases, ...
- for Grimshaw, argument structure is associated with the presence of event structure: if a predicate lacks an event structure, it will also lack argument structure and will never take any grammatical arguments at all
- **but: the nominals surveyed here are stative (and lack event structure), and still clearly have argument structure**

→ **new division of nominals into: argument structure nouns (event nouns vs. stative nouns) and referential nouns**

9.1 Argument Structure Nouns

9.1.1 Argument Realization

- In certain contexts, abstract stative nouns such as *nɑfrɑt* 'hate' and *pyar* 'love' realize source arguments marked by the instrumental case marker *=se*.

(23) mʊjhe (roma logõ=se) nɑfrɑt hɛ
I.Obl.Dat Roma people.Masc.Pl.Obl=Inst hate.Fem.Sg be.Pres.3.Sg
~ 'I hate (the Roma people).'

(24) nina=ko (yasin=se) pyar hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Inst love.Fem.Sg be.Pres.3.Sg
'Nina is in love (with Yassin).'

- also interesting: if experiencer is realized as the dative subject, source *must* be realized as a source argument, not as an adjunct using *ke liye*

(25) * nina=ko yasin=ke liye pyar hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Gen.Masc.Sg.Obl for love.Fem.Sg be.Pres.3.Sg

→ Native speakers inform me that in (24a)/(25a), 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), 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 usually does not license dative case, we can assume the dative (experiencer) case is licensed by the noun

9.1.2 Argument Suppression

- In other contexts, the same abstract stative nouns never realize any oblique arguments.

(26) a. mʊjh=mẽ nɑfrɑt hɛ
I.Obl=Loc$_{in}$ hate.Fem.Sg be.Pres.3.Sg
~ 'I hate.'

b. * mʊjh=mẽ roma logõ=se nɑfrɑt hɛ
I.Obl=Loc$_{in}$ Roma people.Pl.Obl=Inst hate.Fem.Sg be.Pres.3.Sg

(27) a. nina=mẽ pyar hɛ
Nina.Fem.Sg=Loc$_{in}$ love.Fem.Sg be.Pres.3.Sg
'Nina is full of love.'

b. * nina=mẽn yasin=se pyar hɛ
Nina.Fem.Sg=Loc$_{in}$ Yassin.Masc.Sg=Inst love.Fem.Sg be.Pres.3.Sg

→ Native speakers inform me that in (26a)/(27a), the focus is not on the object of Nina's love/hate, but rather on the *feeling by itself*

  - Rajesh Bhatt (p.c.): these are utterances which you expect from e.g. a psychotherapist or a medical doctor monitoring an MRI scan
  - detached, externalised, and somewhat more concrete reading of *pyar* 'love'

- nevertheless, *semantically* inherently relational (e.g., *love* always semantically selects an experiencer and a source)

→ I conclude that these nouns have a reading where they do not realize *syntactic* arguments (argument suppression)

→ These are exactly the cases where we have locative case marking on the subject.

9.2 Referential Nouns

- other nouns are referential in nature: do not have argument structure
- may be abstract (e.g., *acc^{h}ai 'goodness'*) or concrete (e.g., *kɪtab* 'book')
- e.g., *acc^{h}ai* 'goodness' never appears with dative subjects as in (28b); subjects are only allowed to bear locative case as in (28a)

(28) a. nina=mẽ ɑcc^{h}ai hɛ
Nina.Fem.Sg=Loc$_{\text{in}}$ goodness.Fem.Sg be.Pres.3.Sg
'Nina is good/a good person.' (lit. 'There is goodness in Nina.')

b. * nina=ko ɑcc^{h}i hɛ
Nina.Fem.Sg=Dat goodness.Fem.Sg be.Pres.3.Sg

→ referential nouns may carry an abstract or concrete meaning but do not have argument structure

10 A Classification of Nouns — Towards an Analysis

We have identified three different classes of Hindi/Urdu nouns wrt. argument selection:

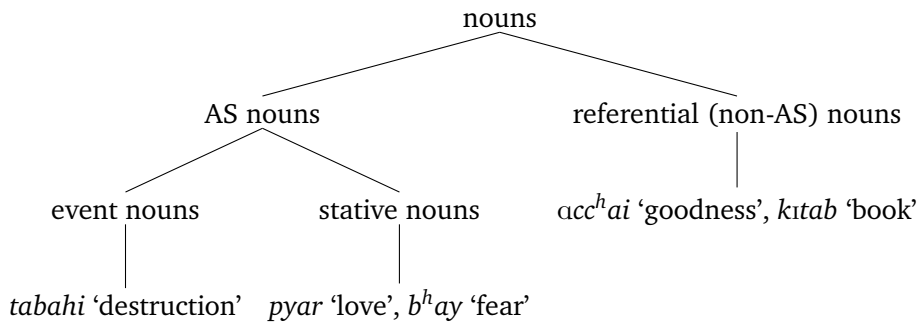

Figure 2: Noun classes wrt. argument selection

We also have identified two different patterns of experiencer constructions:

- dative experiencer constructions:
  - the subject is dative marked;
  - the noun is predicative, licensing an experiencer and a source;
  - complex argument structure: *ho* 'be' is a light verb, forming a CP with the noun — noun must realize all its arguments in the clause (source may be pro-dropped)

(29) *ho* < %PRED, locative >

(30) *pyar* < experiencer, source >

(31) *ho* < *pyar* < experiencer, source > locative >

- locative experiencer constructions:
  - the subject is locative marked;
  - the theme is nominative;
  - the construction is essentially an inverted locative;
  - simple argument structure: *ho* 'be' is a copula, selecting for a theme and a locative — if the noun licenses arguments, it may not realize them in the clause

    (32) *ho* < theme, locative >

    (33) *pyar* < experiencer, source >

    (34) *ho* < *pyar* < experiencer, source > locative >

11 Summary

- data discovered and examined by Mohanan (1994) on first sight seem to be instances of DCM
- in fact, there is a **structural difference** in the argument structure of the nominals involved in the construction — and thus in their status as CPs vs. straightforward copula constructions
- this difference is also mirrored by facts from coordination & topicalization
- LFG's Mapping Theory can account for all the data in a straightforward fashion (detailed analysis in the appendix)
- the varying argument structure of locative copula constructions vs. experiencer CPs thus gives rise to the differences in the semantics

→ The data suggest a clear-cut separation between copula and light verb usages of *ho*.

→ This difference in the constructions gives rise to patterns of DCM.

→ The data further give rise to a new division of nouns wrt. argument structure, deviating from the one suggested by Grimshaw (1990) and others

→ The genitive? Different story, for which you have to refer to my thesis...

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Appendix: An Analysis in LFG

An Outline of LFG's Lexical Mapping Theory

- Lexical Mapping Theory as described in e.g. Bresnan and Kanerva (1989), Bresnan and Zaenen (1990), Butt et al. (1997), Butt (1998)
- main features:
  - maps from predicate-argument structure (lexical semantics) to GF structure (syntax)
  - defines predicate-argument structure of a predicator as a list of thematic roles (a-structure)

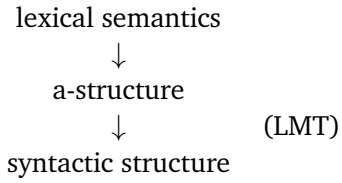

Figure 3: Semantics-syntax mapping via LMT

  - a-structures are ordered lists; ordering reflects prominence in a (language-universal) hierarchy of thematic roles

    (35) Hierarchy of thematic roles:
    agent > beneficiary > experiencer/goal > instrument > patient/theme > locative

  - roles are assigned two binary-valued syntactic features: [±r] (for *restricted*, separates thematically restricted from unrestricted functions) and [±o] (for *objective*, separates object functions from non-object functions)

	-r	+r
-o	SUBJ	OBL_θ
+o	OBJ	OBJ_θ

Table 1: Assignment of syntactic features in LMT

  - markedness hierarchy: subject least marked (two minus features, in (almost) all sentences in all languages), OBJ_θ most marked (two plus features; not present in all languages)

    (36) SUBJ > OBJ, OBL_θ > OBJ_θ

  - mapping of thematic roles onto grammatical functions:
    1. intrinsic role classifications
    2. morpholexical operations (optional; applicativization, argument supression, passive, ...)
    3. default mapping principles

- amendments to original Lexical Mapping Theory:
  - reformulated as Mapping Theory by e.g. Butt (1995), Alsina (1996) to account for CPs
  - argument fusion
  - pertinent characteristic of light verbs: contain predicate variable argument %PRED (Butt (1995): transparent event ev_T) which triggers argument fusion; CP formation must take place if %PRED present
  - case: a separate system interacting with linking principles & clausal semantics, but not wholly determining them (Butt, 1998)
- analysis makes use of two different frames for the copula *ho* 'be': a locative frame and a frame used for CP formation

- assumptions about case:
  - ev_T/%PRED never receive case marking, behave like theme arguments, are always nominative (Butt, 1995)
  - predicational nouns licensing arguments may license case depending on their argument structure
  - experiencers receive dative case (Butt et al., 2006)
  - sources take instrumental case
  - locations receive locative case; choice of the particular locative case marker depends on aspect/lexical semantics of the noun

Predicative Locatives

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

Table 2: Linking analysis for predicative locatives

- This frame is used for predicate locatives such as (37).

(37) admi kɑmre=mẽ hɛ
man.Masc.Sg room.Masc.Sg.Obl=Loc$_{in}$ be.Pres.3.Sg
'The man is in the room.'

Inverted Locatives, Locative Experiencer Constructions

ho	<	th	loc	>				
pyar	<	exp	src	>				
ho	<	th	pyar	<	exp	src	>	>
		|	|					
intrinsic		[-r]	[-o]					
defaults (Loc. Inv.)		**[+o]**						
well-formedness		OBJ OBJ	OBL/SUBJ SUBJ					
		|	|					
case		nom	loc					

Table 3: Linking analysis for inverted locatives

- This frame is used for the inverted version of (37) (*kɑmre=mẽ admi hɛ* 'There is a man in the room.'). It is also the frame used for the locative experiencer constructions as in (39). The linking is given in Table 3.

(38) nina=mẽ b^{h}ay hɛ
Nina.Fem.Sg=Loc$_{in}$ fear.Masc.Sg be.Pres.3.Sg
'Nina is fearful.' (lit.: 'There is fear in Nina.') Mohanan (1994:172)

Dative Experiencer Constructions

- abstract stative nouns (e.g. *pyar* 'love') when plugged in supply two arguments: experiencer, source
- This frame is used for a CP such as the one in (39), where the noun supplies two arguments

(39) nina=ko yasin=se bɑhʊt pyar hɛ
Nina.Fem.Sg=Dat Yassin.Masc.Sg=Inst much love.Fem.Sg be.Pres.3.Sg
'Nina carries much love (in her) for Yassin.' ~ 'Nina is in love with Yassin.'

- The highest argument of the embedded predicate is fused with the lowest argument of the matrix predicate (Butt, 1995, 1998); linked arguments are fused in complex predicate formation as in Table 4.

ho	<	%PRED	loc	>				
pyar	<	exp	src	>				
ho	<	pyar	<	exp	src	>	loc	>
		|			|		|	
intrinsic		[-r]					[-o]	
defaults					[+r]		[-r]	

	OBJ/SUBJ	OBJ_θ/OBL_θ	
well-formedness	OBJ	OBL_θ	SUBJ
	|	|	|
case	nom	inst	dat

Table 4: Linking analysis for experiencer complex predicate (I)

- matrix frame *ho* < *%PRED loc* > is also selected for the "illness" examples such as (40); see Table 5.

(40) a. nina=ko bɑhʊt k^hãsi hɛ
Nina.Fem.Sg=Dat much cough.Fem.Sg be.Pres.3.Sg
'Nina has a severe cough.'

b. nina=ko bʊxar hɛ
Nina.Fem.Sg=Dat fever.Masc.Sg be.Pres.3.Sg
'Nina has fever.'

ho	<	%PRED	loc	>			
k^hãsi	<	exp	>				
ho	<	k^hãsi	<	exp	>	loc	>
		|				|	
intrinsic		[-r]				[-o]	
defaults						[-r]	

	OBJ/SUBJ	
well-formedness	OBJ	SUBJ
	|	|
case	nom	dat

Table 5: Linking analysis for experiencer complex predicates (II)