Development of Spatial Markers in Indo-Aryan Languages

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1 Introduction

• A diachronic examination of spatial postpositions in Indo-Aryan reveals recurring patterns of change and systematic extension to non-spatial meanings in some cases.

• It also reveals stability of meaning across time in other cases.

Question: What underlies this asymmetry in the evolution of spatial markers across time?

Our proposal: Vague spatial relations undergo semantic expansion much more robustly. Specific spatial relations remain stable diachronically.

The case-studies in this talk will be restricted to the markers expressing with ‘coincidence’ vs. in ‘inclusion’ and on ‘exclusion’ in Indo-Aryan.

2 Background

2.1 Language History

A. Old Indo-Aryan
   1200 BCE — 600 BCE (Vedic)
   600 BCE — 200 BCE (Epic and Classical Sanskrit)
B. Middle Indo-Aryan (Aśokan inscriptions, Pāli, Prākrits, Apabhraṃśa—Avahaṭṭha)
   200 BCE — 1100 CE
C. New Indo-Aryan (Bengali, Hindi/Urdu, Marathi and other modern North Indian languages)
   1100 CE — Present
Old Indo-Aryan (Vedic and Sanskrit) had an inflectional case marking system much like the sister language Latin.

<table>
<thead>
<tr>
<th>Number</th>
<th>Declension</th>
<th>Western Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>devas</td>
<td>nominative</td>
</tr>
<tr>
<td>2</td>
<td>devam</td>
<td>accusative</td>
</tr>
<tr>
<td>3</td>
<td>devena</td>
<td>instrumental</td>
</tr>
<tr>
<td>4</td>
<td>devāya</td>
<td>dative</td>
</tr>
<tr>
<td>5</td>
<td>devāt</td>
<td>ablative</td>
</tr>
<tr>
<td>6</td>
<td>devāsyā</td>
<td>genitive</td>
</tr>
<tr>
<td>7</td>
<td>deve</td>
<td>locative</td>
</tr>
</tbody>
</table>

Declension of Sanskrit deva- ‘god’ (adapted from Blake 2001, 64)

- The inflectional case endings eroded away and collapsed into one another in the course of Middle Indo-Aryan (MIA).
- From around 1200 on, one finds new case markers being drawn into the system in New Indo-Aryan (NIA).
- In the modern languages, the case markers are mostly clitics, some markers are inflectional.

**Modern Urdu/Hindi Case Markers**

<table>
<thead>
<tr>
<th>Marker</th>
<th>Case</th>
<th>Grammatical Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>∅</td>
<td>nominative</td>
<td>subj/obj</td>
</tr>
<tr>
<td>=ne</td>
<td>ergative</td>
<td>subj</td>
</tr>
<tr>
<td>=ko</td>
<td>accusative</td>
<td>obj</td>
</tr>
<tr>
<td></td>
<td>dative</td>
<td>subj/indirect obj</td>
</tr>
<tr>
<td>=se</td>
<td>instrumental</td>
<td>subj/obl/adjunct</td>
</tr>
<tr>
<td></td>
<td>comitative</td>
<td>source</td>
</tr>
<tr>
<td>=ka/ki/ke</td>
<td>genitive</td>
<td>subj (infinitives), specifier</td>
</tr>
<tr>
<td>=mē/par/tak</td>
<td>locative</td>
<td>obl/adjunct</td>
</tr>
<tr>
<td>∅/-e</td>
<td>locative</td>
<td>obl/adjunct</td>
</tr>
</tbody>
</table>

**Modern Marathi Case Markers**

<table>
<thead>
<tr>
<th>Marker</th>
<th>Case</th>
<th>Grammatical Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>∅</td>
<td>nominative</td>
<td>subj/obj</td>
</tr>
<tr>
<td>=ne</td>
<td>ergative</td>
<td>subj</td>
</tr>
<tr>
<td></td>
<td>instrumental</td>
<td>subj/obl/adjunct</td>
</tr>
<tr>
<td>=lā</td>
<td>accusative</td>
<td>obj</td>
</tr>
<tr>
<td></td>
<td>dative</td>
<td>subj/indirect obj</td>
</tr>
<tr>
<td>=pāsun</td>
<td>source</td>
<td>subj/obl/adjunct</td>
</tr>
<tr>
<td>=ca/ci/ce</td>
<td>genitive</td>
<td>subj (infinitives), specifier</td>
</tr>
<tr>
<td>=madhye/var/paryant</td>
<td>locative</td>
<td>obl/adjunct</td>
</tr>
</tbody>
</table>
2.2 Big Picture Questions

- Why were these new markers drawn into the modern languages?
- How exactly were these new markers drawn in?

2.3 Previous Work

- The etymology of the NIA case markers was the subject of much investigation and debate in the 1800s and 1900s. For example:
  Beames (1872–79), Kellogg (1893), Trumpp (1872), Hoernle (1880), Tessitori (1913, 1914), Chatterji (1926)
- The discussion centered mainly around likely phonological sound changes, somewhat around semantic likelihood.
- However, the why question was not addressed.
- Nor was there an investigation of whether there are systematic semantic factors behind the function and distribution of the modern case markers.
- In the 1900s and 2000s, most modern linguistic work has focused almost exclusively on the ergative — the dominant view is one of ergative vs. accusative alignment (see Butt 2001, Haig 2008 for an overview).

2.4 Our Theoretical Assumptions

- We assume that systematic semantic factors are at play and are the most important factor determining the distribution of case.
- Our goal: to study the function and distribution over time and across related languages/dialects in order to understand the semantic systematicity.

2.4.1 Lexical Semantic Approach to Case

- We essentially take a lexical semantic approach to case: case markers are assumed to contribute their own individual lexical semantic information to a clause.
- This approach was first proposed by Butt and King (1991) and was further worked out in Butt and King (2003, 2004).
- In the context of multiple case marking in Australian languages, this approach has come to be known as Constructive Case (Nordlinger 1998).

2.4.2 Semantic Alternations and Case

- Evidence for the lexical semantic approach to case comes from semantic alternations.
- Modern South Asian languages systematically and robustly express semantic differences via case alternations (cf. differential case marking).
Nominative vs. Ergative

(1) a. **hasan=le** gaari chalaun-cha
   Hassan=Erg car.Nom drive-NonPast.Sg
   Hassan drives cars (that’s what he does). (Poudel 2008) Nepali (Individual-Level)

b. **hasan** gaari chalaun-cha
   Hassan.Nom car.Nom drive-NonPast.Sg
   Hassan is driving a car/cars. (Poudel 2008) Nepali (Stage-Level)

Ergative vs. Dative (Difference in Modality)

(2) a. **nadya=ne** zu ja-na he
   Nadya.F=Erg zoo go-Inf be.Pres.3.Sg
   Nadya wants to go to the zoo.’ Hindi/Urdu

b. **nadya=ko** zu ja-na he
   Nadya.F=Dat zoo go-Inf be.Pres.3.Sg
   Nadya has/wants to go to the zoo.’ Hindi/Urdu

Nominative vs. Dative (Difference in Modality)

(3) a. **amma** kuthiye adik’k’-anam
   mother.Nom child.Acc beat-want
   ‘Mother must beat the child.’ Malayalam

b. **ammak’k’@ kuthiye adik’k’-anam**
   mother.Dat child.Acc beat-want
   ‘Mother wants to beat the child.’ Malayalam

Nominative/Nonspecific vs. Accusative/Specific

(4) a. **us=le gaari** chalaun-cha
   Pron.3.Sg=Erg bus.Nom drive.NonPast.Sg
   ‘He drives bus(es). (does bus driving) Nepali

b. **us=le gaari=lai** chalaun-cha
   Pron.3.Sg=Erg bus=Acc drive.NonPast.Sg
   ‘He drives the bus.’ Nepali

**Note:** These types of semantically based case alternations cannot be explained by assuming a strictly functional model of case marking whereby case is there to maximally differentiate Agents (A) from Patients (P)!
Of a slightly different type: **Different types of Ablatives (Stative vs. Dynamic)**

(5) a. us=le dilli=deki* mandu=samma baat-o banaa-yo
   Pron.3.Sg=Erg Delhi=Abl Kathmandu=to street.Nom make-Pa st
   ‘He built a street from Delhi to Kathmandu.’ Khan (2009) Nepali (static path)

   b. u dilli=baatya* mandu=saamma kud-yo
   Pron.3.Sg.Nom Delhi=Abl Kathmandu=to ran-Pa st
   ‘He ran from Delhi to Kathmandu.’ Khan (2009) Nepali (dynamic path)

Semantically motivated differential case marking was also found in Old Indo-Aryan (OIA).
Just two examples: partitivity and concrete vs. abstract movement.

**Accusative vs. Genitive**

(6) a. pibā somam
drink.Imp soma.Acc
   ‘Drink soma.’ (Rgveda VIII.36.1, from Jamison 1976)

   b. pibā somasya
drink.Imp soma.Gen
   ‘Drink (of) soma.’ (Rgveda VIII.37.1, from Jamison 1976)

**Dative vs. Accusative**

From Pāṇini’s Grammar (Böhtlingk 1839–40):

**Rule 2.3.12:** The Dative and Accusative are used for verbs of movement, but the dative
cannot be used if motion is an abstract one.

That is if a person named Ram goes to a village, the village can be marked either
Accusative or Dative. But if only one’s thoughts “go” towards a village, the Dative
cannot be used.

**2.5 Our Results So Far**

- Cases appear to be invested with a significant amount of semantic information in Indo-Aryan.
- This feature is a stable part of the system despite the fact that the actual case morphology
  has eroded away and been reinvented in several differing ways in NIA.
- Most of the modern case markers derive from originally spatial terms.
- Butt (2001, 2006) and Butt and Ahmed (2010) show that the modern Urdu/Hindi ergative is
  not related to the an old instrumental, as commonly assumed, but to a form that also functions
  as a dative (result supported in this century by Montaut 2003, 2009).
- Deo (2008) shows that the Marathi dative comes from two different sources: locative and
  purposive and that it then extends from a dative use to an accusative use. This development
  is not predicted by the current semantic map account (Haspelmath 2003).
Khan (2009) conducts a crosslinguistic survey of several South Asian languages and shows that the same type of case function and distribution shows up in language after language despite the fact that the individual case markers in the particular languages differ.

That is:

– South Asian languages behave similarly in terms of the grouping verbs into certain *verb classes*.
– The particular case markers involved differ across languages.
– But: the differences are systematic, semantically based and consistent within and across languages.

**Examples: Verb Classes and Case Marking Across South Asian Languages**

<table>
<thead>
<tr>
<th>Verb Class/Verbs</th>
<th>Subject Marking</th>
<th>Object/Oblique Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>fear (psych verbs)</td>
<td>Nominative/Dative</td>
<td>ablative/source</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Urdu se, Punjabi tō, Nepali dēkˈi)</td>
</tr>
<tr>
<td>trust, doubt, suspect</td>
<td>Nominative/Dative</td>
<td>Locative ‘on’</td>
</tr>
<tr>
<td>believe</td>
<td></td>
<td>(Urdu par, Punjabi te)</td>
</tr>
<tr>
<td>bless, capture, govern</td>
<td>Nominative/Ergative</td>
<td>Locative ‘on’</td>
</tr>
<tr>
<td>attack, sign, blame</td>
<td></td>
<td>(Urdu par, Punjabi te)</td>
</tr>
<tr>
<td>love, hate</td>
<td>Nominative/Dative</td>
<td>Comitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Urdu se, Punjabi nal, Nepali sāṅga)</td>
</tr>
<tr>
<td>marry, fight</td>
<td>Nominative/Ergative</td>
<td>Comitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Urdu se, Punjabi nal, Nepali sāṅga)</td>
</tr>
</tbody>
</table>

3 Developmental Asymmetry

In our work, we observed a striking asymmetry with respect to the development of new case markers from originally spatial terms.

Some originally spatial terms are extended to a variety of meanings, including core case marking functions such as ergative, dative and accusative.

Other originally spatial terms do not allow for an extension into a wide range of meanings.

This asymmetry in historical development is exemplified below for two forms meaning ‘in’ and ‘with’, respectively.

(7)
Our hypothesis: Vague spatial relations undergo semantic expansion much more robustly. Specific spatial relations remain stable diachronically.

- Terms that denote vague spatial relationships such as ‘near’ or ‘at’ or ‘with’ are very amenable to semantic extensions.
- Terms that denote quite concrete spatial relationships such as ‘in’ (inclusion) or ‘on’ (exclusion) are less amenable to semantic extensions.
- Vague spatial relationships can be compared to the role of the verb *have* in languages like English — *have* basically has the function of relating two items to one another in a very underspecified manner (Harley 1998, Cowper 1989, Ritter and Rosen 1997, Tantos 2008).
- Note that none of the South Asian languages have a *have*.

4 Data

4.1 Stable postpositional meanings

The Sanskrit adpositions *madhye* and *upari* express the notion of inclusion and exclusion, corresponding to the English prepositions *inside* and *outside*.

(8) a. draup-ad-yā yat sabhā-*madhye* savya-m ūru-m adarzayat
   draupadi-INS that assembly-LOC left-ACC thigh-ACC show-IMPF.PST.3.SG
   That Draupadi showed her left thigh in the assembly (Mbh. 11.14.7c)

   b. *upari* śaila-sya bahv-īś ca sarit-ah śiv-āḥ
   On mountain-GEN several-NOM.PL stream-NOM.PL auspicious-NOM.PL
   On the mountain, are several auspicious streams. (Mbh. 3.155.15a)

They continue on to the New Indic languages, modulo sound change but little alteration in meaning and distribution.

(9) a. gharā=madhe sāp āhe
   house=IN snake.NOM be-PRES.3.SG
   There is a snake in the house. Marathi

   b. gharā=var chappar āhe
   house-ON roof.NOM be-PRES.3.SG
   There is a roof on the house. Marathi

(10) a. bilaal ghar=mē hai
    Bilal.NOM house=IN be-PRES.3.SG
    Bilal is in the house. Urdu/Hindi

   b. kitaab.NOM mez=par hai
    book table=ON be-PRES.3.SG
    The book is on the table. Urdu/Hindi
4.2 Semantic change in postpositional meaning

In contrast, Sanskrit postpositions that start out as expressing notions of *proximity* and *accompaniment* exhibit both semantic change and regeneration.

4.2.1 Postpositions expressing proximity

Some examples are *pārśva* ‘side’ and *aśra* ‘side’.

(11) a. *tasya pārśve tu ime dvīpāś catvārah saṁsthī-tāḥ*
   *it.GEN side-LOC PART these.NOM island.NOM four.NOM locate-PART.NOM.PL lord.VOC*
   *O Lord, Beside it (the mountain) are located these four islands. (Mbh. 6.7.11a)*

These postpositions develop across time expressing non-spatial (non-metaphorical) meanings.

*aśra* continues to Old Marathi as -*si*, a locative-dative marker in Old Marathi. Crucially, -*si* is vague between the inclusion ‘in’ and exclusion ‘on’ meanings.

(12) *gosāvī Dwārāvatie-*si karāte-vari bīḍī zhāḍi-ti*
   *G.NOM D-DAT broom-WITH road.NOM sweep-IMPF.3.PL*
   *The Gosāvī, while at Dwārāvati, would sweep the roads with a broom (LC:E:2).*

(13) *tava gosāvīyā-*si ekā sīlātalā-*si āsan*
   *then G.-DAT one.OBL stone-DAT seat.NOM*
   *At that time, the Gosāvī had his seat at a stone. (LC:E:40)*

-*si* also expresses non-spatial meanings: alienable (14-a-b) and inalienable (14-c-d) possession (cf. the note on the vague nature of English *have*).

(14) a. *āṇi vāyū-*sī... bidhāra jaise nāḥīṁ*
   *And wind-DAT dwelling as NEG-PRES.3.SG*
   *And just as the wind does not have a dwelling (in one place)... (Dny. 12: 221)*

   b. *teyān-ce maṭhāpatye pustakbhāṇḍār teyā-*sī jā-le*
   *their monastery.wealth book-library he-DAT become-PERF.3.N.SG*
   *Their wealth and library of books became his. (LC:E:52)*

   c. *devā-*sī pāṭhi poṭa āṭhī kīṁ nāḥīṁ*
   *god-DAT back belly be-PRES.3.SG or not*
   *Does God have a back and a belly (front) or not? (Dny. 11:530)*

   d. *ṭhākur eku, tayā-*sī putra nāḥī
   *Landlord.NOM one he.DAT son.NOM NEG*
   *There was a landlord, he didn’t have a son. (LC:E:44)*
The same postposition is used to express experiencers ((15-a)), and purposes ((15-b)).

(15) a. jeyā-cīye pāṭhi-vari āruhaṇa karī-ti tayā-sī sukh ho-e be-IMPF.3.N.SG
    Whosoever’s back he would climb on, he experienced joy. (LC:E:33)

   b. tavā avadhūṭa ekū bhikṣe-sī rīgā-lā
      Then monk.NOM one alms-DAT leave-PERF.3.M.SG
      Then, one monk left for (collecting) alms. (LC:E:16)

4.3 Postpositions expressing accompaniment

saha is a comitative postposition in Sanskrit that is typically used to express accompaniment.

(16) a. prātis-t.ḥ-ata tadā kāl-e menakā vāyunā saha dwell-IMPF.PST.3SG that time.LOC Menakā.NOM Vāyu-INS.SG with
    At that time, Menakā dwelt with Vāyu. (Mbh. 1.66.1.c)

   Its uses in the Modern Indo-Aryan languages, however, extend beyond the comitative to instrumental, source, perliative (path-through).

(17) a. hāson=ne nadya=se bat k-ii
    Hassan.Nom Nadya=Com talk.F do-Perf.F.Sg
    Hassan talked with Nadya. Urdu/Hindi (comitative)

   b. vo kāraci=se a-ya
      Pron.3.Sg Karachi=Abl come-Perf.M.Sg
      He came from Karachi. Urdu/Hindi (source)

   c. vo baγ=se guzr-a
      Pron.3.Sg garden=Abl pass-Perf.M.Sg
      He passed through the garden. Urdu/Hindi (path-through)

   d. os=ne cabi=se durvaza kāol-a
      Pron.3.Sg.obl=Erg key=Inst door.M.Sg open-Perf.M.Sg
      He opened the door with a/the key. Urdu/Hindi (instrument)

Yet another comitative postposition in Sanskrit saṅgena, which also underwent semantic extension beyond the accompaniment/comitative use to marking possessors in Nepali and instruments in Sindhi.

(17) a. u ma=sanga bazaar ga-yo
    Pron.3.Sg Pron.1.Sg=Com market go-Past
    ‘He went to the market with me.’ Nepali (accompaniment)
b. ma=sanga ek kitaab cha
   Pron.1.Sg=Com one book NonPast.Sg
   ‘I have a book.’ Nepali (possessor)

(18) a. māā cokre=sāā baazaar vayo
   Pron.1.Sg.Nom boy.Obl=Com market go.Perf.M.Sg
   ‘I went to the market with the boy.’ Sindi (accompaniment)

b. darzii kēcii-a=sāā kapro katre t'o
   tailor.Nom scissor-Obl=Inst cloth cut.Impf be.Pres.M.Sg
   ‘A tailor cuts cloth with a pair of scissors.’ Sindi (instrument)

4.4 Location, Possession and Control

• The relationship between location and possession in the Indic languages is not accidental.
• In many languages, locative markers optionally or obligatorily double up as possession markers (Aristar 1996, Tham 2005).
• This pattern can also be found in NIA, as shown for Marathi.
• The locative adposition jawal in Marathi optionally licenses a possessor (control) reading animate-denoting NPs.

(20) a. ek dāṅgā dukāṇā-jawal zhā-lā
   one riot shop-OBL-near happen-PERF.3.M.SG.
   One riot took place near the shop.

b. ek pustak rām-jawal āhe
   One book Rām-near be.PRES.3.SG
   One of the books is near Rām. OR Rām has one (of the) books.

• We believe that animacy is an important factor in the semantic extension of originally spatial meanings over time.
• When something is located near an animate entity, then the possibility of a possessor reading is engendered.
• With respect to psych verbs such as fear or verbs like be hungry, be angry, the experiencer is taken as an animate location at which the stimulus can be located (e.g., Verma and K.P.Mohanan 1990, Landau 2010).

4.5 A Lexical Semantic Approach

Khan (2009) proposes that the following feature specification makes sense in order to explain patterns of case polysemy (multifunctionality of use) in South Asian languages and crosslinguistically.
(19) \[
\begin{bmatrix}
\text{PLACE} & \text{null/on/in} \\
\text{PATH} & (\text{source}), (\text{via}), (\text{end}) \\
\text{DYNAMIC} & +/–
\end{bmatrix}
\]

- Crucially, Khan works with underspecification, so that the precise location of a place can be left underspecified.
- Some place feature must always be contained in the lexical entry (even if it is underspecified).
- Path and Dynamic are optional.
- We thus propose the following lexical entries for Sanskrit madhye, upari and saha:

\begin{align*}
\text{madhye} & \quad [\text{PLACE in}] \\
\text{upari} & \quad [\text{PLACE on}] \\
\text{saha} & \quad [\text{PLACE }]
\end{align*}

- saha is underspecified, therefore compatible with a wider range of meanings and therefore very amenable to semantic extension over time.

5 Summary and Conclusion

- The emergence of new case markers in NIA must be understood primarily in semantic terms.
- In particular, it must be understood in terms of lexical semantic content.
- Spatial markers that contain very specific lexical semantic information about the type of location (e.g., inclusion vs. exclusion) are not very amenable to semantic extension over time (Sanskrit madhye ‘inside’ and upari ‘outside’).
- Spatial markers which denote a very vague spatial relation such as ‘near’, in contrast, are amenable to semantic extension over time (Sanskrit aśra and saha).
- When a spatial marker denotes a vague spatial relationship and when it is used in conjunction with animate locations, an additional possessor reading can result.

Outlook: Need to investigate more historical data and synchronic crosslinguistic patterns to understand more of the systematic lexical semantic patterns behind the development of new case markers.
References


