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.

Number	Declension	Western Name
1	*devas*	nominative
2	*devam*	accusative
3	*devena*	instrumental
4	*devāya*	dative
5	*devāt*	ablative
6	*devasya*	genitive
7	*deve*	locative

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

Marker	Case	Grammatical Function
∅	nominative	subj/obj
=ne	ergative	subj
=ko	accusative	obj
	dative	subj/indirect obj
=se	instrumental	subj/obl/adjunct
	comitative	
	source	
=ka/ki/ke	genitive	subj (infinitives), specifier
=mẽ/pɑr/tɑk	locative	obl/adjunct
∅/-e	locative	obl/adjunct

Modern Marathi Case Markers

Marker	Case	Grammatical Function
∅	nominative	subj/obj
=ne	ergative	subj
	instrumental	subj/obl/adjunct
=lā	accusative	obj
	dative	subj/indirect obj
=pāsun	source	subj/obl/adjunct
=ca/ci/ce	genitive	subj (infinitives), specifier
=madhye/var/paryant	locative	obl/adjunct

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** gaaṛi   chalaun-cha
            Hassan=Erg car.Nom drive-NonPast.Sg
            Hassan drives cars (that's what he does). (Poudel 2008)   Nepali (Individual-Level)

      b. **hasan**   gaaṛi   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 hϵ
            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 hϵ
            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**   kuṭṭiye   aḍik'k'-aṇam
          mother.Nom child.Acc beat-want
          'Mother must beat the child.'   Malayalam

      b. **ammak'k'ə** kuṭṭiye   aḍik'k'-aṇam
          mother.Dat   child.Acc beat-want
          'Mother wants to beat the child.'   Malayalam

Nominative/Nonspecific vs. Accusative/Specific

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

      b. us=le   **gaaṛi=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=**dekʰi** katʰmandu=samma baaṭo   banaa-yo
     Pron.3.Sg=Erg Delhi=Abl Kathmandu=to   street.Nom make-Past
     'He built a street from Delhi to Kathmandu.'   Khan (2009)   Nepali (static path)

    b. u   dilli=**baaṭa** katʰmandu=samma kud-yo
     Pron.3.Sg.Nom Delhi=Abl   Kathmandu=to   ran-Past
     '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.'   (Ṛgveda VIII.36.1, from Jamison 1976)

    b. pibā   somasya
     drink.Imp soma.**Gen**
     'Drink (of) soma.'   (Ṛgveda 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

Verb Class/Verbs	Subject Marking	Object/Oblique Marking
fear (psych verbs)	Nominative/Dative	ablative/source (Urdu *se*, Punjabi *tõ*, Nepali *dekʰi*)
trust, doubt, suspect believe	Nominative/Dative	Locative 'on' (Urdu *par*, Punjabi *te*)
bless, caputure, govern attack, sign, blame	Nominative/Ergative	Locative 'on' (Urdu *par*, Punjabi *te*)
love, hate	Nominative/Dative	Comitative (Urdu *se*, Punjabi *nal*, Nepali *sanga*)
marry, fight	Nominative/Ergative	Comitative (Urdu *se*, Punjabi *nal*, Nepali *sanga*)

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)

Language	*madhye* 'in'		*saha, sañge* 'with'			
	in	**on**	**co-location**	accompaniment	instrument	source
OIA	√		√	√		
MIA	√		√	√		
Sindhi (NIA)	√		√	√	√	
Urdu/Hindi (NIA)	√		√		√	√
Nepali (NIA)	√	√	√	√		

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.   draupad-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-aḥ 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=**mẽ** 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 catvāraḥ saṁsthi-tāḥ
    it.GEN side-LOC PART these.NOM island.NOM four.NOM locate-PART.NOM.PL
    prabho
    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 Dvārāvatie-**si** kharāṭe-vari bīdī zhāḍi-ti
    G.NOM D-DAT broom-WITH road.NOM sweep-IMPF.3.PL
    The Gosāvī, while *at* Dvārāvati, would sweep the roads with a broom (LC:E:2).

(13) tava gosāvīyā-**si** ekā sīḷātaḷā-**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**... biḍhāra jaise nāhīṁ
    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 pustak bhāṇḍār teyā-**si** 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** pāṭhī poṭa āthī kīṁ nāhīṁ
    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-**si** putra nāhī
    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-**si** sukh
          who-GEN.OBL back-LOC ascent.NOM do-IMPF.3.PL, he-DAT joy.NOM
          ho-e
          be-IMPF.3.N.SG
          Whosoever's back he would climb on, he experienced joy. (LC:E:33)

      b. tavã avadhūta   eku bhikṣe-**si** 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. prātiṣṭh-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, perlative (path-through).

(17) a. hɑsɑn=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   kɑraci=**se** a-ya
          Pron.3.Sg Karachi=Abl come-Perf.M.Sg
          He came from Karachi.   Urdu/Hindi (source)

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

      d. ʊs=ne   cabi=**se** dɑrvaza kʰol-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. mãã   cokre=**sãã**   baazaar vayo
          Pron.1.Sg.Nom boy.Obl=Com market go.Perf.M.Sg
          'I went to the market with the boy.'   Sindhi (accompaniment)

     b. darzii   kẽcii-a=**sãã**   kapṛo katre   tʰo
          tailor.Nom scissor-Obl=Inst cloth cut.Impf be.Pres.M.Sg
          'A tailor cuts cloth with a pair of scissors.'   Sindhi (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 *jawaḷ* in Marathi optionally licenses a possessor (control) reading animate-denoting NPs.

(20)   a.   ek daṅgā dukānā-**jawaḷ** zhā-lā
              one riot   shop-OBL-near happen-PERF.3.M.SG.
              One riot took place near the shop.

          b.   ek   pustak rām-**jawaḷ** 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) $\begin{bmatrix} \text{PLACE} & \text{null/on/in} \\ \text{PATH} & \big[\text{(source), (via), (end)} \big] \\ \text{DYNAMIC} & +/- \end{bmatrix}$

- 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*:

(20)   *madhye*   [PLACE in]
       upari   [PLACE on]
       saha   [PLACE   ]

- *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.

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