

Case and agreement variation in Indo-Aryan

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1. Introduction

In the ideal world, case and agreement are complementary means for encoding argument hierarchy. Structural case marks arguments according to their place in the argument hierarchy, thereby contrasting them with unmarked nominative, while agreement preferably relates to the unmarked argument.

An argument bears accusative if there is a higher argument (+hr).

An argument bears ergative if there is a lower argument (+lr).

Medial arguments have both a higher and a lower argument (+hr,+lr).

At every position, a less marked case is possible (ergative split, differential object, dat-acc syncretism, etc.)

Structural case can be realized by using pronominal affixes on the verb, or by using overt case affixes (or clitics) on DP/NP complements. In the presence of overt case on the complements, an additional agreement system can evolve that is complementary to case. With a few exceptions, Indo-Aryan verbs can only agree with one argument. They either agree with the highest argument (–hr, the subject) or the lowest argument (–lr, the object).

	case	agreement
<input type="radio"/> +lr	<input type="radio"/> +lr {erg, nom}	<input type="radio"/> –hr subject
	<input type="radio"/> +lr, +hr {dat, acc, erg?, nom}	
<input type="radio"/> +hr	<input type="radio"/> +hr {acc, nom}	<input type="radio"/> –lr dir. object

Complementarity means that the verb usually agrees with the respective unmarked argument (nominative). In the preferred account, complementarity moreover is a property of the relevant feature algebra. The verb agrees with the subject (–hr) in an acc-based system (+hr), and it agrees with the object (–lr) in an erg-based system (+lr).

Syntactic accounts mostly claim a rigid connection between case and agreement. In earlier minimalist syntax, case was assigned (or checked) in a spec-head relation to AGR. In more recent minimalist approaches, both case and agreement are considered to be the effects of the relation AGREE that holds between an DP with interpretable phi-features (such as person, number, gender) and a head (like T or v) with uninterpretable/unvalued phi-features – case is here an unvalued feature of DP which gets valued in the agree process.

It is difficult to capture the distribution of case and agreement in Hindi/Urdu in terms of a syntactic relation, let alone the amount of variation observed in other Indo-Aryan languages. In Hindi, the verb agrees with the highest nominative argument, which is the subject of non-perfective verbs or an object of perfective ones. If the object is marked (acc) in the perfect, the verb bears the default form (m.sg), other languages then use the neuter form. Because of the differential object property, the combined effects of animacy, specificity and definiteness of the object DP determines whether it is marked (acc) or not (nom). Thus, the selection of the verb form seems to depend on choices outside of the verb, which contradicts both lexicalist and minimalist assumptions (namely that the verb form is independent of the form of the complements or even may determine case).

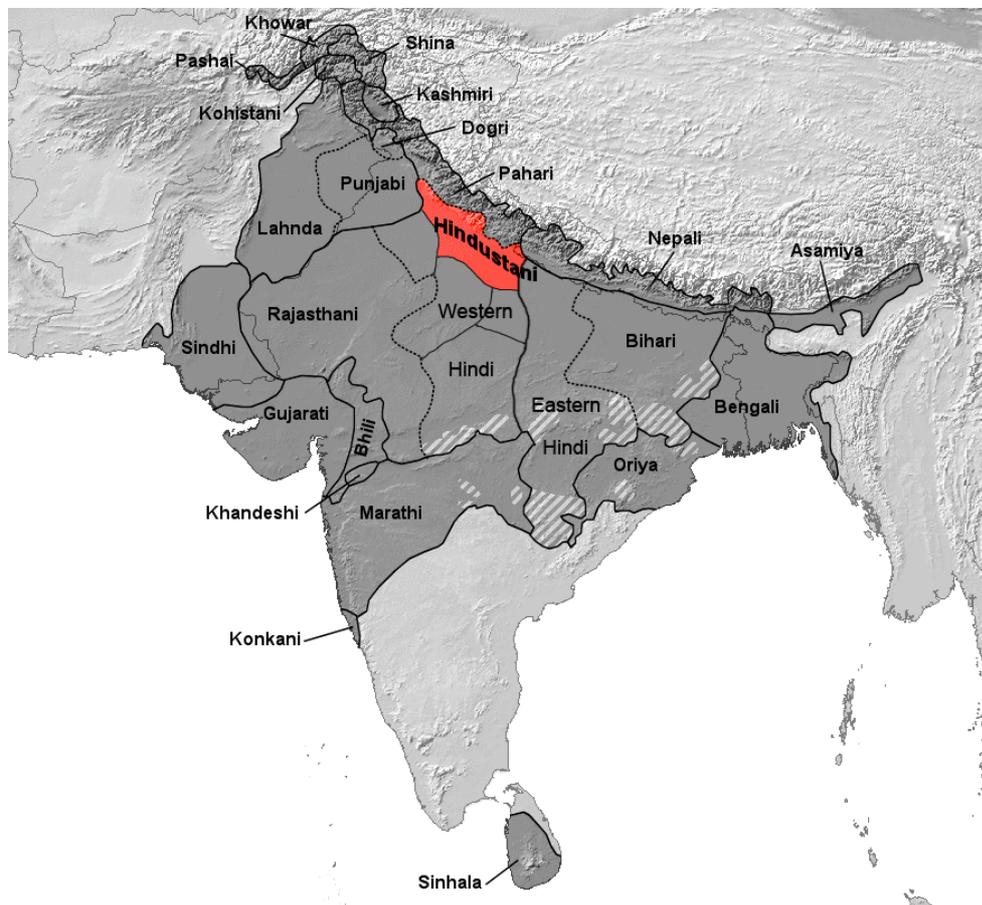
The Nepali verb always agrees with the subject, even if it is ergative-marked, while the Rajasthani perfective verb always agrees with the object, even if it is accusative-marked and the subject is nominative. Such a variation suggests that the prototypical relation between case and agreement is just one possible outcome of an ordered set of constraints which, however, can be ranked differently. Whereas agreement in Hindi depends on the distribution of unmarked case (according to the most simple descriptive generalization), agreement in a

number of other Indo-Aryan languages does not depend on case in any obvious way (with the only exception that a verb never agrees with an argument that is lexically marked for case).

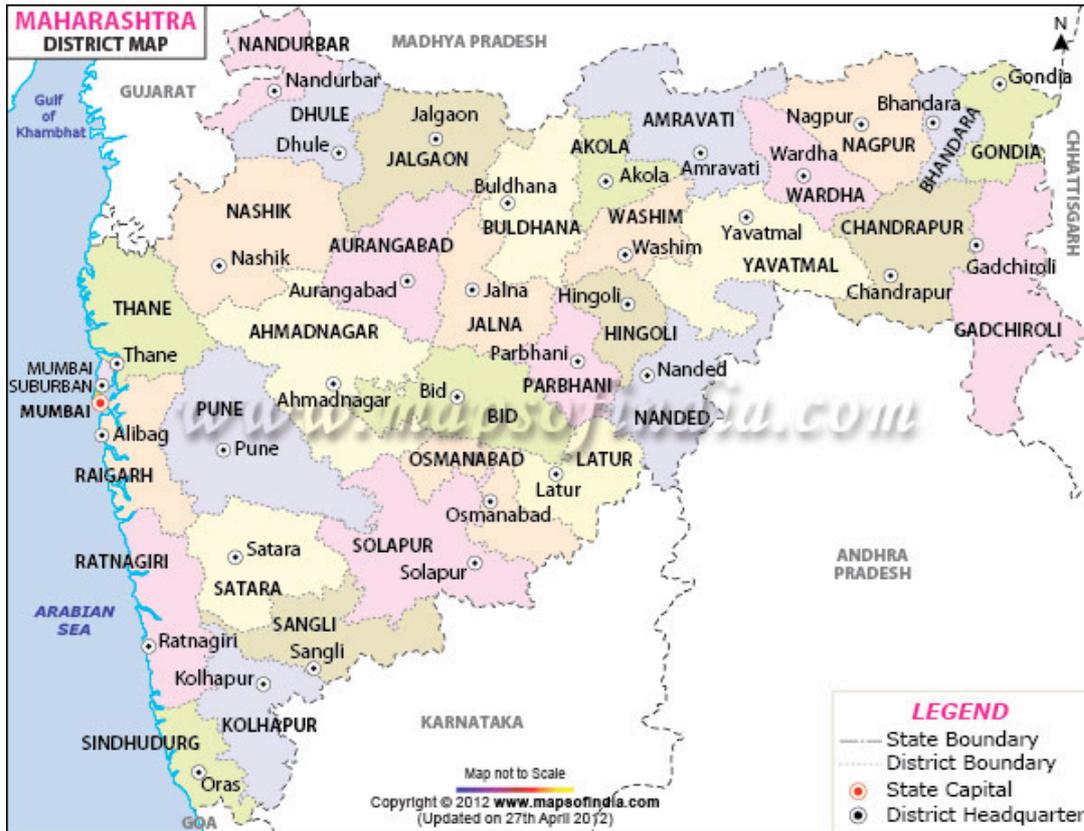
The aim of the paper is to describe the observed variation as clearly as possible, and to derive certain consequences.

2. Ergative was the most prominent Indo-Aryan innovation

During the period of Middle Indo-Aryan (MIA, 100 BC – 1000 AD) most inflectional forms of Old Indo-Aryan (including Sanskrit) were lost. Yet a former periphrastic passive perfect construction, using participles and instrumental case for the agent, survived – it was reinterpreted as an active construction: the instrumental now became ergative case, and the gender-number agreement between the passive participle and its subject now became agreement with the object. This happened in late MIA. Some of the modern Indo-Aryan languages lost their various inherited instrumental (now ergative) affixes and then regenerated ergative case by using uniform clitics. Both the existence of split-ergativity in a primarily accusative-based language and the coexistence of agreement with subjects and objects put Indo-Aryan under pressure. Various case & agreement systems evolved, even within one single language like Marathi.



Although there was some previous knowledge about the range of case & agreement systems within Indo-Aryan, Deo & Sharma (2006) were the first to compare data from a larger set of languages. In particular, they inspected the Linguistic Survey of India by Grierson (1905) in the field of Marathi dialects. There they found 6 different case & agreement types within the 94 varieties collected by Grierson (or 42 dialects assumed by other Indic scholars). Marathi is the majority language of Maharashtra (the third-biggest Indian state, nearly as big as Germany, with 112 mill. inhabitants), but is also spoken in the neighboring states, with altogether 90 mill. speakers. (Certainly, more actual data are needed – what is captured by Deo & Sharma is the dialect situation from 100 years ago.)



Two of the 6 types are distributed at various places: *Standard Marathi* is spoken around Pune, but also in Buldhana and elsewhere. *Warhadi* (of Akola) is taken as representative for dialects influenced by Gujarati, which also include the capitals Mumbai in the West and Nagpur in the East. Three types are found in relatively small coherent areas: *Konkan Standard* is restricted to the Konkan coast in the south (around Goa). *Dharwari* belongs to the Indo-Aryan islands in the Dravidian state Karnataka; it is spoken in Dharwar, east of Goa. *Gowari* is the language of a Hindu caste living in an area around Bhandara in eastern Maharashtra. Interesting is the last type: it includes *Marhethi*, spoken in the Balaghat district of Madhya Pradesh immediately to the north of the Gowari area, as well as a dialect quite distantly spoken in Bijapur in northern Karnataka near to Sangli. This shows that at least one of the case & agreement types arised independently in unconnected areas (i.e., solely for structural reasons).

Deo & Sharma (2006) propose an OT-analysis of case and agreement in Indo-Aryan using the format developed by Aissen (1999, 2003), which has a number of inherent shortcomings I will not discuss here. Although Deo & Sharma have separate evaluations for subject case and agreement, they postulate agreement in terms of both grammatical function and case ('express agreement', 'do not agree with the subject/ the object', 'do not agree with an ergative-marked argument/ with an accusative-marked argument/ with a nominative argument'). There is the standard opinion that case and agreement are tightly connected. Case is often defined in terms of syntactic AGR configurations, and agreement is often described in terms of overt case. A typical example of the latter is agreement in Hindi: 'The verb agrees with the highest nominative argument.'

Why should agreement and case be so tightly connected? If there is agreement with only one argument, usually the least-marked argument is selected – which is the nominative in an accusative- but also in an ergative-based system. In general, however, agreement is quite distinct from case, it occurs in any type of phrase where nouns are heads or complements, thus one shouldn't expect too a narrow association of case and agreement. The tight connection between case and verb agreement only emerges because both live under the same conditions – the argument hierarchy (=the underlying structure) of verbs (often misunderstood as syntax).

3. Typology of variation in Indo-Aryan

In the following, I will reconsider the Deo & Sharma data and introduce the relevant constraints more inductively. Only standard intransitive and transitive verbs are captured; I'll say nearly nothing about ditransitive verbs, about lexically-marked verbs (or constructions) and about valency-decreasing or -increasing operations (which are important for the overall constraint rankings) – simply because the corresponding data mostly are lacking.

Hindi/ Urdu (*C stands for case, and A for agreement*)

C. The subject of a transitive perfective clause is marked with the ergative case clitic *-ne* in all persons and numbers.

A. The verb agrees with the highest argument associated with nominative case.

(The same holds in Bundeli, Haryanvi and Kashmiri, further to the north.)

- (1) a. sita rām-ko dekh-t-ī h-ai
 Sita.f.nom Rām.m-acc see-impf-f.sg be-pres.3sg
 ‘Sita sees Ram.’
- b. rām-ne chiḍiyā dekh-ī
 Rām.m-erg bird.f.nom see-perf.f.sg
 ‘Ram saw a sparrow.’
- c. sita-ne radha-ko dekh-ā
 Sita.f-erg Radha.f-acc see-perf.m.sg
 ‘Sita saw Radha.’

- (1b,c) represents the phenomenon of differential object marking (DOM). Only animate or definite/specific inanimate objects are marked accusative, otherwise they remain unmarked (nominative). Most IA languages behave similar to Hindi in this respect. [„Realize accusative, except on low-salient arguments“.] An exception is Kashmiri, where DOM is blocked in the perfective aspect with ergative subject. [„Do not mark accusative in perfective clauses“.] Usually, DOM does not occur with ditransitive verbs or with lexically marked verbs (such as so-called dative-subject verbs).
- Hindi also shows ergative split, with ergative in the perfective aspect. Many IA languages have a similar split. [„Realize ergative, except in non-perfective clauses“.] Sometimes, ergative has extended to the simple past or subjunctive, not using a perfective verb form, as in Kashmiri. In Nepali, ergative has extended to all tense-aspects and now is obligatory with inanimate transitive subjects (Norcliffe 2006). On the other hand, the eastern IA languages have lost ergative.
- If one disregards pronominal affixes or clitics occurring in some IA languages, one can say: Throughout Indo-Aryan, the verb agrees with at most one argument. Cross-linguistically, the verb then agrees either with the highest argument or with the most unmarked argument. If there is no agreement target available, the verb has the so-called neutral form (3rd person neuter or masculine singular). Thus, it is not the case that agreement in general is better than non-agreement. Intuitively, the idea that the verb waits until it is decided whether there is an argument associated with nominative is odd. In any case, the selection of an agreement target in Hindi is rather complex. „To agree with the highest argument (subject) is better than to agree with the lowest argument (object)“ accounts for the fact that if two arguments are nominative, the higher nominative wins. Concerning the nominative requirement, two strategies are possible:
 - I. „Do not agree with any argument that is marked with a case clitic“
 - II. Exclude all the possibilities where the agreement target is marked for case: „Do not agree with the highest argument in perfective clauses“, „Do not agree with a highly salient lowest argument“, „Do not agree with a lexically-marked argument“.

Bengali

C. Modern Bengali has lost all ergative marking.

A. The verb agrees with nominative subjects.

(The same holds in Oriya, Sinhala, and the Dharwari dialect of Marathi.)

- ‘No ergative marking’ implies ‘No agreement with the object’

- (2) a. *āmī sita-ke dekh-chī*
I.nom Sita.f-acc see-pres.1sg
‘I see Sita.’
- b. *āmī sita-ke dekh-lām* c. *anu sita-ke dekh-lo*
I.nom Sita.f-acc see-perf.1sg Anu.f.nom Sita.f-acc see-perf.3sg
‘I saw Sita.’ ‘Anu saw Sita.’

Nepali

C. Nepali has ergative marking (*-le*) on the subject in all three persons.

A. The verb agrees with the subject, whether nominative- or ergative-marked, but it does not agree with an accusative-marked subject (‘dative-subject’).

(The same is found in Asamiya and Gawar-bati)

- (3) a. *ma bas-en* b. *mai-le mero lugā dho-en*
I.nom sit-perf.1sg I-erg my clothes.nom wash-perf.1sg
‘I sat.’ ‘I washed my clothes.’

- Interestingly, there is no association between case and agreement.
- „Agree with the highest argument“ dominates all other Agree-constraints (except that excluding lexical marking).

Gujarati

C. Gujarati has ergative marking (*-e*) on the subject, except in the 1pl and 2pl pronouns (*ame, tame*).

A. In imperfective clauses, the verb agrees in number and gender with the subject, while in perfective clauses, it always agrees with the object, irrespective of whether the object is nominative or accusative (and whether the subject is overtly ergative-marked or not).

(The same is found in the Konkani dialect of Marathi)

- (4) a. *sita-e kāgal vāc-yo*
Sita.f-erg letter.m.nom read-perf.m.sg
‘Sita read the letter.’
- b. *sita-e raj-ne pajav-yo*
Sita.f-erg Raj.m-acc harass-perf.m.sg
‘Sita harassed Raj.’
- c. *raj-e sita-ne pajav-i*
Raj.m-erg Sita.f-acc harass-perf.f.sg
‘Raj harassed Sita.’

- Again, there is no association between case and agreement.
- Case-marking is dominated by the constraint „Do not realize ergative on the 1pl or 2pl“
- Agreement is dominated by the constraint „Do not agree with the highest argument in perfective clauses“. Furthermore, there is no restriction for agreement with marked objects.

Marwari (Western Rajasthan) lacks ergative, but nevertheless shows object agreement in the perfect (Magier 1983, cited from Patel 2007)

- (4**) a. Raam ghanii laapsii jiiml-ii hii
 Ram lots wheat-gruel.f eat.perf-f be.past.f
 ‘Ram ate lots of wheat gruel.’
 b. aap Siita-ne dekh-ii ho
 you.pl Sita-acc see.perf-f be.pres.2pl
 ‘You have seen Sita.’

Note that the auxiliary here agrees with the subject.

Rajasthani realizes ergative only with nouns ending in *-o* or *-au* (ergative ending is *-e* resp. *-ai*), otherwise, subjects are unmarked nominative. (Khoklova 2002)

- (4**) RawaN giitaa nai maari-i hai
 Rawan.m Gita.f acc beat.pastpart-f be.pres.3
 ‘Rawan has beaten Gita.’

end of addendum

Standard Marathi

C. Marathi has ergative marking on the subject, except in 1st and 2nd person pronouns.

A. In imperfective clauses, the verb agrees with the subject, while in perfective clauses, it agrees with the object, irrespective of whether the subject is nominative or ergative marked. (The verb agrees with the highest nominative.)

(The same is found in Punjabi)

- (5) a. **mī** sita-lā bagh-to (more precise: **mī** = **1sg**, nom-erg syncretism)
 I.m.nom Sita.f-acc see-pres.m.sg
 ‘I see Sita.’
 b. **mī** ek chimn.ī baghit-lī
 I.m.erg one sparrow.f.nom see-perf.f.sg
 ‘I saw a sparrow.’
 c. **mī** sita-lā baghit-la
 I.m.erg Sita.f-acc see-perf.n.sg
 ‘I saw Sita.’

(In the second person, the verb agrees with both object and subject: Wali 2004)

- d. tu sāmāya ghas-l-ya-s.
 you.nom lamps.nom.3fpl wash-perf-3fpl-2sg
 ‘You washed the lamps.’

- Case-syncretism in the 1st and 2nd person pronouns is extended compared to Gujarati.
- Agreement is a subset of Gujarati, because there is no agreement with accusative-marked objects.

Although **mī** itself does not bear any information about gender or case, Deo & Sharma assume for its occurrence in (5):

- that this sentence is uttered by a masculine speaker, and
- that there is an abstract ergative case in the perfective.

This is intended to explain why in (5c), where the verb shows default neuter agreement in the presence of an overt accusative marking on the object, agreement with the subject is blocked. (If one ignores the ergative gap in the 1st and 2nd person, the agreement system of Marathi becomes similar to that of Hindi.)

As further evidence for abstract ergative, Deo & Sharma consider the behaviour of noun modifiers. They take the nominative form when they occur with nominative heads, and the oblique case when they occur with non-nominative heads. (6b) shows that Marathi perfective clauses have the modifier with oblique marking, even if the head is unmarked.

- (6) a. **mī** ek āmbā khā-llā
I.f.erg one mango.m.nom eat-perf.m.3sg
'I ate a mango.'
- b. veḍ-**yā** ash-ā **mī** ek āmbā khā-llā
foolish-obl like-obl I.f.erg one mango.m.nom eat-perf.m.3sg
'Foolish me ate a mango.'
- c. veḍī ashī **mī** ek āmbā khā-te
foolish-f.nom like-f.nom I.f.nom one mango-m.nom eat-pres.f.sg
'Foolish me eats a mango.'

- There is no need to introduce abstract ergative case in perfective clauses – this would suggest too a tight association between case and agreement. The form of the head not necessarily determines the form of the modifiers; a syncretism in the head is not automatically mapped onto a syncretism in the modifiers. Rather, both modifiers and head are determined by the same set of underlying conditions.

The region where Marathi is spoken is representative for the emergence of modern Indo-Aryan. The more than 80 million speakers of Marathi show at least six different dialect variants in case and agreement (including the standard variant around the city of Pune); three of them have features that only occur in Marathi dialects. Marathi perhaps shows the greatest language-internal variation of case and agreement among IA languages. It stretches from Dharwari, which is like Bengali, to Konkani, which is like Gujarati.

Warhadhi and Marhethi combine case and agreement properties that have independently been developed in different languages. These two dialects also nicely illustrate that case and agreement can be shifted independently of each other – there is no natural association between case and agreement.

Warhadhi (Akola, Mumbai, Nagbur)

C. The same as in Gujarati.

A. The same as in Standard Marathi.

- (7) a. tyā-na mot.h-ī pangat ke-lī āh-e
he-erg big-f.nom feast.f.nom do-perf.f.sg be-pres.3sg
'He has done (arranged) a big feast.'
- b. tumhi tyā-chyā-sāt.hī mot.h-ī pangat de-llī
you.erg he-gen.obl-sake big-f.nom feast.f.nom give-perf.f.sg
'You (honorific plural) gave a big feast for him (in his honor).'
- c. tyā -na tyā -lā dukar chārāy-lā āpl-yā vār-āt dhād-la
he-erg he-acc pig.nom.pl graze-inf self-gen field-loc send-perf.n.sg
'He sent him in the field to graze pigs.'

Marhethi

C. The same as in Standard Marathi.

A. The same as in Nepali.

- (8) a. **mī** īshwarā-ce iruddh ānikh āple-samor pāp ke-lo
I-m.erg God-gen against and you-in front of sin.n.nom do-perf.1.m.sg
'I committed a sin against God and in front of you.'
- b. **mī** tum-cī konhi bāt nāhī tār-lo
I-m.erg you-gen any talk.f.nom neg avoid-perf.1.m.sg
'I never avoided (doing) anything you said.'
- c. tum-ce bāpā-ne cāngla bhojan ke-lā āh-e
you-gen father.m-erg good feast.n.nom do-perf.3.m.sg be-pres.3.sg
'Your father has organized a good feast.'

Gowari

C. The same as in Standard Marathi.

A. The verb agrees with the highest overt nominative.

Thus, agreement in Gowari is the counter-piece to agreement in Standard Marathi: the perfective verb now agrees with the 1st or 2nd person pronoun nominative.

- (9) a. mag tyā -n bāpā-lā uttar di-lan
 then he-erg father-dat answer.n.nom give-perf.3.n.sg
 ‘Then he gave an answer to his father.’
- b. mī devā-javal. tu-jhyā-sāmne pāp ke-lo
 I.m.nom God-near you-gen.obl-in front of sin.n.nom do-perf.1.m.sg
 ‘I committed a sin near God and in front of you.’

In view of the agreement data of Standard Marathi, Deo & Sharma claim that the subject bears abstract ergative in perfective clauses, even if it is overtly unmarked. Extending this analysis to Gowari, they say that the subject of Gowari does not bear abstract ergative in the presence of overt nominative but rather abstract nominative. In assuming some interplay between abstract and overt subject marking, they state the following constraint:

AG/SUBJ_{perf}: Agentive subjects (in a perfective clause) must bear the highest available subject case feature.

This constraint is assumed to be the highest in Standard Marathi (thus yielding abstract ergative), but the lowest in Gowari (so that it can be overridden by other information). According to Deo & Sharma, Standard Marathi and Gowari only differ in abstract case, but have identical agreement. In reality (on the surface), they are identical in case, but differ in agreement.

Some inherent problems of the Deo & Sharma proposal:

1. The AG/SUBJ_{perf} constraint is rather complex and unintuitive.
2. It is unclear why an abstract ergative mapped to 1st and 2nd person in Standard Marathi and an abstract nominative mapped to 1st and 2nd person in Gowari are realized identically by the same unmarked nominative.
3. There is no evidence that nominal modifiers in Gowari behave differently from those in Standard Marathi.
4. The selection of case is prior to the selection of agreement, which is counter-intuitive for the sake of projection. (The form of the verbal head should be selected for semantic reasons and not because of something which is established in the periphery.)

Therefore, a different perspective is needed to deal with the case and agreement variation in Indo-Aryan.

4. Case and agreement types in an improved constraint-based analysis

There is massive evidence that case and agreement are independently determined: a certain distribution of agreement can be associated with a particular distribution of case in some instances, but with the opposite distribution of case in other instances. (Recall: the verb agrees with the subject independently of its case in Nepali, while it agrees with the object independently of its case in the Gujarati perfect.)

A so-called abstract case is a feature of the underlying argument hierarchy. The highest argument (if not lexically marked) can be associated with overt ergative or nominative, depending on further conditions. Similarly, the lowest argument (if not lexically marked) can be associated with overt accusative or nominative. Accordingly, case constraints say whether certain hierarchy features are either visible or blocked. Let us assume that

- The highest argument has the feature matrix [+lr, -hr], while the lowest argument has the feature matrix [-lr, +hr], and
- The ergative is [+lr], while the accusative is [+hr].

The case type of a language, then, is determined by a ranking of constraints that say whether an underlying hierarchy feature should be visible or not, e.g.

MAX(+hr) » *(+hr) or MAX(+hr) » *(+hr)

(MAX(+hr) = ‘Realize the underlying feature [+hr]’; *(+hr) = ‘block the feature [+hr] in the surface’ – both can be subject to contextual conditions).

Similarly with agreement. The most important constraints are ‘Agree with the highest argument’ (=AGR(-hr)), and ‘Agree with the lowest argument’ (=AGR(-lr)).

All these constraints might be relativized to some further conditions, and might be differently ordered in different languages.

For convenience, I use the abbreviations *ERG*=+lr, *ACC*=+hr, *S*=-hr, *O*=-lr.

(I) Subject case in transitive perfective clauses of Indo-Aryan (*ERG*=+lr, *ACC*=+hr)

cI	sg	pl	cII	sg	pl	cIII	sg	pl	cIV	sg	pl
1st	NOM		1	ERG		1	NOM		1	ERG	NOM
2nd											
3rd											
Bengali			Hindi, Nepali			Marathi			Gujarati		

Corresponding constraint-rankings inducing ergative split:

type cI

*ERG » MAX(ERG)

type cII

*ERG/-PERF » MAX(ERG)

type cIII

*ERG/+PARTIC,

*ERG/-PERF » MAX(ERG)

type cIV

*ERG/+PARTIC,+PLUR,

*ERG/-PERF » MAX(ERG)

Object split:

*ACC/LOWSAL » MAX(ACC)

[A complete set of constraints for case in Hindi is found in Wunderlich 2000.]

(II) Four different agreement patterns in transitive perfective clauses (*S*=-hr, *O*=-lr)

aI	+perf	aII	+perf	aIII	+perf	aIV	+perf
	ERG-ACC		ERG-ACC		ERG-ACC		ERG-ACC
	ERG-NOM		ERG-NOM		ERG-NOM		ERG-NOM
			NOM-ACC		NOM-ACC		NOM-ACC
			NOM-NOM		NOM-NOM		NOM-NOM
Nepali		Gujarati		Marathi		Gowari	
person, number		gender, number		pers, gender, number		gender, number	

The verb agrees with the argument in bold case. The corresponding constraint-rankings:

type aI

AGR(S) »

AGR(O)

type aII

*AGR(S)/+PERF » AGR(S) »

AGR(O)

type aIII

*AGR(S)/+PERF » AGR(S), *AGR(O)/HighSal » AGR(O)

type aIV

AGR(S)/+PARTIC,+PLUR » *AGR(S)/+PERF » AGR(S), *AGR(O)/HighSal » AGR(O)

Furthermore: *mult.AGR, *AGR(lex), ...

Gujarati verbs agree with an accusative-marked animate (DOM) object, but not with an object that is lexically marked for accusative (‘dative’ object).

(10) a. Ramesh-e Sudha-ne dhembkawy-i

R.-ERG S.f-ACC scold-f

‘Ramesh scolded Sudha.’ (Mistry 1976,14a; cited from Woolford 2006)

b. Kishor-(n)e kaagal-ne ad-v-ü hat-ü.

K.m.-ERG letter.m-ACC touch-desid-n be.past-n

‘Kishor wished to touch the letter.’ (Mistry 1997, 6c; cited from Woolford 2006)

Note that ‘dative’ objects are marked with [+lr], which cannot be the target for an agreement relation that searches for [-lr]. This lexical marking also prevents DOM.

(III) Nine different case-agreement combinations in Indo-Aryan

	Case type	Agreement type	Further languages or dialects
Bengali	cI	aI	Oriya, Sinhala, M-Dharwari
Nepali	cII	aI	Asamiya, Gawar-bati
Hindi-Urdu	cII	aIII	Bundeli, Haryanvi, (Kashmiri)
M-Marhethi	cIII	aI	
Marathi	cIII	aIII	Punjabi
M-Gowari	cIII	aIV	
Gujarati	cIV	aII	Konkani, M-Kudali
M-Warhadi	cIV	aIII	
Kutchi	cI	aII	Marwari, Rajasthani

This extreme variation of agreement patterns is adequately covered by an ordered set of constraints, differently ordered in different agreement types. It is hard to see how a minimalist syntactic account in terms of absolute structural conditions could deal with such a range of variation, which is even possible within a single language like Marathi.

Choosing the constraint-based account, one should be able also to cover the phenomenon of long-distance agreement observed in some IA languages.

That *even in Hindi* agreement with the object does not depend on the *presence* of an ergative subject is shown by the small narration in (11) about some pigeons in Trafalgar Square (Butt 2001).

In (11b), the continuing topic is dropped, nevertheless – the perfective verb agrees with the object.

- (11) a. [ye]_T b^{hi} mer-i=ki tərā hē
 Pron.3 also I.gen-fsg=gen.fsg like be.pres.pl
 ‘They_{topic} are also like me.’
- b. jahā dana dek^h-a
 where seed.msg.nom see-perf.msg
 ‘where (they_{cont.topic}) see a seed’
- c. ūdar ga-ye or peṭ bār kār ūr ga-ye
 there go-perf.mpl and stomach.msg.nom fill having rise go-perf.mpl
 ‘there (they_{cont.topic}) go and having filled (their) stomach (they_{cont.topic}) fly away.’

5. Long-distance agreement in Indo-Aryan

Control verbs such as *chaah* ‘want’ or *bhul* ‘forget’ in Hindi can have access to the object of an embedded infinitive if they are in the state of agreeing with an object. In ‘Ram has eaten bread’, the verb ‘eat’ agrees with ‘bread’, while in ‘Ram has wanted to eat bread’ both verbs, ‘eat’ and ‘want’, can agree with ‘bread’. Such a long-distance agreement between ‘want’ and ‘bread’ can be compared with long passive, in which the embedded object becomes subject of the control verb construction. German as well as Kashmiri allow the long passive with a control verb like ‘try’ (Chandra 2007:104).

- (12) a. Der Traktor wurde von Hans zu reparieren versucht.
 b. jaani zAriyi aayi TrakTar Thiik karmic kuushish karnI.
 John.abl by came.fem.sg. tractor right do.fem. try do-inf.
 ‘The tractor was tried to be repaired by John.’
 (Note that the English translation is a double passive and not a long passive.)

Astonishingly, long-distance agreement (LDA) has been investigated only in a few IA languages (Hindi, Kashmiri and Kutchi Gujarati), no one has ever tried to make a survey including further IA languages. In principle, LDA should be possible in constructions with object agreement, however, it must be triggered by a particular class of matrix verbs.

Let us consider here the possible constructions with the verb *caah-* ‘want’ in Hindi (see Wunderlich 1994:23-24). (The acceptability rates are due to a study by Bornkessel-Schlesewsky et al. 2008, in which the embedded items *saikal*(F) *calaa* ‘ride a bicycle’ were used.)

(1) In the perfect, three options are available. (In the simple perfect the auxiliary ‘be’ is dropped.)

- a. All verbs agree with the embedded object. (=LDA) 88 %

Raam-ne roTii [khaa-nii caah-ii thii]
 Ram-ERG bread.F.SG eat-INF.F.SG want-PF.F be.F.SG
 ‘Ram had wanted to eat bread.’

- b. If the object is strongly focussed upon, no verb agrees. (default). 78%

Niinaa-ne roTii khaa-naa caah-aa thaa
 Nina-ERG bread.F.SG eat-INF.M.SG want-PF.M be.M.SG
 ‘It was bread-eating which Nina had wanted to eat (just, only) BREAD.’

- c. If the object is definite (topic), it is marked with ACC and no verb agrees (default).

Niinaa-ne us roTii-ko khaa-naa caah-aa thaa
 Nina-ERG that bread.F.SG-ACC eat-INF.M.SG want-PF.M be.M.SG
 ‘Nina had wanted to eat that bread.’

(2) In the imperfect, two options are available.

- a. The matrix verb agrees with the subject, while the dependent verb bears *default*. 95%

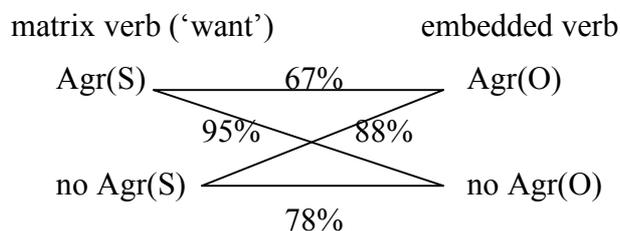
Niinaa [roTii khaa-naa] [caah-tii thii]
 Nina.F bread.F.SG eat-INF.M want-IPF.F be.F.SG
 ‘Nina habitually wanted to eat bread.’

- b. The matrix verb agrees with the subject, while **the dependent verb agrees with its object**. Not all speakers accept this option; Bickel & Yadawa (2000) found some dialectal variation. 67%

Raam [roTii khaa-nii] [caah-taa thaa]
 Ram bread.F.SG eat-INF.F.SG want-IPF.M be.M.SG
 ‘Ram habitually wanted to bread-eat.’

Bhatt (2005) disregards data such as (2b); his claim that infinitival agreement is parasitic on LDA is wrong in general, although it might be true for some dialects.

(3) Summarizing, there are 4 possible Agree combinations of ‘want’ and an embedded verb with an unmarked nominative object (plus the corresponding acceptability rates)



In contrast, in Kashmiri (and possibly in some Hindi dialects, too) only the option ‘Agr(O)’ exists for the embedded verb.

In important points, Kashmiri is similar to Hindi: ergative is restricted to the past or perfect, and the verb agrees with the highest nominative – which is the lowest argument of ditransitive verbs in Hindi. (Kashmiri causatives also allow the higher object, the causee, to be nominative; in those cases the verb agrees with the causee, as shown in (4*a).) Otherwise, there are major differences between these two languages. Kashmiri always requires an unmarked argument in transitive verbs, so it does not tolerate the erg-acc pattern occurring in Hindi. Instead, differential object is governed by a person hierarchy in Kashmiri, and expressed by pronominal affixes specific for nominative, ergative, or accusative.

(4*) Kashmiri causatives (Manetta 2012:ex.(45))

- a. asi **par-Inə:v** **ko:r** hisa:b
 we.erg study-cause.past.fsg girl.f.nom math.m.nom
 ‘We taught the girl math.’
- b. asi **par-Ino:v** ko:r-i **hisa:b**
 we.erg study-cause.past.msg girl.f-acc math.m.nom
 ‘We taught the girl math.’

(4) Kashmiri: the infinitive agrees with the object in the imperfect (a), in the LDA construction (b) and the non-LDA construction (c) in the perfect, as well as in the gerund clause with GEN-subject (d) (Chandra 2007:102)

- a. Raam chu yatsaan **koori vuchi-ni.**
 Ram.NOM be.PRES.M.SG want.IPF girl.F.PL see-INF.F.PL
 ‘Ram wants to see the girls.’
- b raam-an **yat-I koori vuchi-ni.** LDA
 Ram-ERG wanted-F.PL girls see-INF.F.PL
 ‘Ram wanted to see the girls.’
- c. Raam-an chu hameeSI yotshImut [**koori vuchi-ni**].
 Ram-ERG be.PRES.M.SG always wanted.M.SG girls see-INF.F.PL
 ‘Ram has always wanted [to see girls].’
- d. [mohnIn **yi philim vuchIn**] chu mumkin.
 Mohan.GEN.SG this film.F.SG see-INF.F.SG be.PRES.M.SG possible.
 ‘[Mohan’s seeing this film] is possible.’

I assume that the option ‘no Agr(O)’ in Hindi results from the constraint *agr(O)/inf, which does not play a role in Kashmiri.

The analysis:

(i) The embedded verb always has two options: the infinitive agrees or does not agree with the object; lack of agreement is forced when the object is ACC-marked (1c).

I assume that AGR(O) and *AGR(O)/inf (‘do not agree with the object in the infinitive’) are equally ranked in Hindi. In Kashmiri, where the infinitive always agrees with the object, the ranking is AGR(O) >> *AGR(O)/inf.

(5) Evaluation of agreement marking on the dependent infinitive verb of Hindi

embedded verb	*AGR(S) /inf	AGR(O)	*AGR(O) /inf
Agr(S)	*!	*	
☞ Agr(O)			*
☞ no Agr		*	

(ii) *caah* ‘want’ in general is a propositional attitude verb that takes a dependent proposition. This explains why AGR(O) and AGR(S) can coexist. Further evidence for a clausal dependent is that *caah* can take a saturated proposition with a genitive subject.

caah ‘want’ can also be used as a control verb, giving rise to verb complex formation; this is a lexical option.

Verb complex (VC) formation ('restructuring') is necessary for LDA. To be marked for the referential property of an embedded object, the verb 'want' must have access to that object, which is possible by embedding *v* (rather than *vp*, *ip* or *cp*); *v* is thought to be the inflected verb rather than the verbal root. The phi-features assigned by the verb morphology constitute an index to be associated with the theta-role (the λ -abstractor corresponding to the argument the verb agrees with). By functional composition, the object of the embedded verb then is inherited to the verb complex, whereby the indices are unified. It is not possible to unify indexes with contradictory information. Therefore, the VC formation guarantees that the combined verbs always bear compatible information, excluding the combination of *-ii* endings with *-aa* endings (see Wunderlich 1994).

- (6) 'eat' *khaa-nii* [+inf]: $\lambda z^{F.SG} \lambda y \text{ EAT}(y,z)$
 'want' *caah-ii* [+perf]: $\lambda v^{F} \lambda v[+inf] \lambda x \text{ WANT}(x, v(x))$
 'want to eat' *khaa-nii caah-ii*: $\lambda z^{F.SG} \lambda x \text{ WANT}(x, \text{EAT}(x,z))$

This is a 'direct agree' rather than a 'cyclic agree' account (in the sense of Lahne 2008) – verbs do not agree with verbs (contrary to Butt 1995); they collectively agree with a certain argument. In principle it would be possible for LDA to occur when the dependent infinitive never agrees (?in Nepali?, see Bickel & Yadawa 2000).

By VC formation, the embedded object and the matrix subject become co-arguments. I assume that VC formation is expensive, and that *VC and Agr(O) are equally ranked. Furthermore, cross-clausal agreement is forbidden.

- (7) a. *VC: 'Do not form a verb complex'
 *AGR(non-arg): 'Do not agree with an entity that is not an argument of the verb or the verb complex'

b. Constraint ranking:

*mult.AGR, *AGR(S)/+perf, *AGR(non-arg) \gg AGR(S) \gg AGR(O), *VC

(8) Evaluation of the matrix verb *caah*- 'want' in the perfect

perfect, verb complex	*AGR(S)/+perf	*AGR (non-arg)	AGR(S)	AGR(O)	*VC
Agr(S)	*!			*	*
☞ Agr(O)			*		*
no Agr			*	*!	*

perfect, no verb complex	*AGR(S)/+perf	*AGR (non-arg)	AGR(S)	AGR(O)	*VC
Agr(S)	*!			*	
Agr(O)		*!	*		
☞ no Agr			*	*	

(5) & (8) together show that the verb complex with object-agreement (LDA) and the propositional matrix verb with no agreement (default marking) are equally good options.

What determines the choice? Are there interpretational differences? The semantically-based account predicts: If no verb complex is built, the object of the dependent verb must stay as unspecific, it does not enter the *de re* level of interpretation.

In the literature, at least three different proposals were made (apart from possible dialectal differences).

1. According to *Wunderlich* (1994:24), the default marking is used with strong *focus*, based on an unspecific reading such as Nina's BREAD-eating. I have found no further confirmation for this observation. In principle, an item with contrastive (?) focus could also be specific, but certainly only under more special conditions. Thus, contrastive focus might be too a narrow interpretation.

2. According to *Chandra* (2005:12), LDA is possible only with *specific objects*. Intuitively, specific items belong to the *de re* background of a propositional attitude and should be high in the structure.

(9) Specificity contrast

a. Us-ne kursii toR-nii chaah-ii.
 he-ERG chair.F break-INF.F want-PERF.F
 'He wanted to break the chair.' (LDA: specific)

b. Us-ne kursii toR-naa chaah-aa.
 he-ERG chair.F break-INF.M want-PERF.M
 'He wanted to break chair.' (no LDA: unspecific or generic)

3. According to *Bhatt* (2005:799), embedded object quantifiers can get scope over the matrix verb in the LDA option (10a); this interpretation is not possible with the default marking (10b). These data are predicted by the VC analysis. In order to have wide scope ($\forall > want$), the object must be an argument of the VC headed by 'want'.

(10) Quantifier scope

a. Naim-ne har kitaab parh-nii chaah-ii thii.
 Naim-ERG every book.F read-INF.F want-PF.F be.PAST.F.SG
 'Naim wanted to read every book.' (LDA: $\forall > want$; $want > \forall$)

b. Naim-ne har kitaab parh-naa chaah-aa thaa.
 Naim-ERG every book.F read-INF.M want-PF.M be.PAST.M.SG
 'Naim wanted to read every book.' (no LDA: $*\forall > want$; $want > \forall$)

Another interesting fact is recursivity, which is predicted by the present analysis.

(11) The LDA constr. of Hindi is recursive (although marginal) (*Chandra* 2007:44)

John-ne roTi-yaan khaa-nii bhul-nii chaah-ii. }
 John.M-ERG bread-PL.F eat-INF.PL.F forget-INF.PL.F want-PERF.PL.F }
 'John wanted to forget to eat bread.'

LDA in Hindi is not restricted to control verbs like *bhul*- 'want' and *khaa*- 'forget'. The verb *lag*- 'seem' usually is used with a complementizer, but also functions as a raising verb when a perfect participle is embedded; then it shows LDA (12a). The interaction with quantifier scope shows that $\forall > seem$ is a possible reading, for which VC formation is necessary (12b). Moreover, it is also possible (although not usual) to embed a control verb as in (12c). (Thanks to Shraavan Vasishth for checking these data.)

(12) LDA with 'seem' in Hindi (*Wunderlich* 1994: 27)

a. Raam-ne roTii khaa-yii lag-tii thii.
 Ram.M-ERG bread.FSG eat-PERF.F seem-IPF.F be.PAST.F.SG
 'Ram seemed to have eaten bread.'

b. Raam-ne har kitaab parh-ii lag-tii hai
 Ram.M-ERG every book.F read-PF.F seem-IPF.F be.PRES
 'Ram seems to have read every book.'

c. Raam-ne har kitaab parh-nii chaah-ii lag-tii hai
 Ram.M-ERG every book.F read-INF.F want-PERF.F seem-IPF.F be.PRES
 'Ram seemed to have wanted to read every book.'

LDA is also possible with a raising-to-object verb; (13b) is again an example of recursion (Wunderlich 1994: 28). Comparing (13a) and (13b), one sees that auxiliaries also might be integrated into verb clusters.

- (13) a. Raam-ne larki aa-tii dekh-ii thii
 Ram-ERG *girl.F* *come-IPF.F* *see-PERF.F* *be.PAST.F.SG*
 ‘Ram had seen a girl coming.’
- b. Raam-ne larki aa-tii dekh-nii chaah-ii
 Ram-ERG *girl.F* *come-IPF.F* *see-INF.F* *want-PERF.F*
 ‘Ram wanted to see a girl coming.’

Furthermore, LDA appears with light verbs like ‘let’ and with modals like ‘should’ (Bhatt 2007: 47). The latter is a ‘dative’-subject verb, which lexically marks the subject [+hr].

- (14) Nadia-ne sarosh-ko gaaR-ii chala-ne d-ii.
 Nadia-ERG Sarosh-ACC *car-F.SG* *drive-GER.OBL* *let-PERF.F*
 ‘Nadia let Sarosh drive car.’
- (15) Raam-ko davaa-ii khaa len-ii chaahiye th-ii.
 Ram-ACC *medicine-F* *eat* *take-INF.F* *should* *be-F*
 Ram should have taken medicine.

All these examples (12) to (15) differ from the ‘want’ case in that they don’t show the specificity split between LDA and non-LDA – in the contrary, default agreement would be ungrammatical in these cases. Why the literature about LDA in Hindi nearly exclusively deals with the ‘want’ case, which is more complex because of the specificity split, is really puzzling. – A different question is whether and how interpretational differences concerning specificity and scope are expressed in these additional LDA constructions, which do not seem to have alternative realizations.

Besides Hindi and Kashmiri, LDA is furthermore documented for Kutchi Gujarati (Grosz & Patel 2006). LDA in KGuj is only possible with the verb *par* ‘have to’, which lexically assigns ‘dative’ (ACC) to its subject. It is not possible for a verb to agree with a lexically marked argument, so verbs can only agree with the object of the corresponding VC; if no object is present, the verb bears the default information *neuter* (45c). With an embedded transitive verb, LDA occurs both in the imperfect and in the perfect, and no other options are available.

- (13) LDA in Kutchi Gujarati (Grosz & Patel 2006)
- a. Reena-ne Valji-ne jo-vo par-e-ro.
 Reena.F-ACC Valji.M-ACC watch-INF.M have.to-3SG-M
 ‘Reena has to watch Valji.’
- b. Reena-ne Valji-ne jo-vo par-yo.
 Reena.F-ACC Valji.M-ACC watch-INF.M have.to-PERF.M
 ‘Reena had to watch Valji.’
- c. Khimji-ne kha-vu par-yu.
 Khimji.M-ACC eat-INF.N[D] have.to-PERF.N[D]
 ‘Khimji had to eat it.’

Similar to what we saw in Hindi, the VC with *par* allows wide or narrow scope:

- (17) Valji-ne amukaj chopri vanch-vi par-i
 Valji.M-ACC some book.F read-INF.F have.to-PFV.F
 ‘Valji had to read some of these books.’ (*some* > *have to*; *have to* > *some*)

Note that the corresponding Hindi verb *par* also forms a VC (due to Anoop Mahajan).

- (18) Raam-ko rotii khaa-nii par-ii **Hindi-Urdu**
 Raam.M-ACC bread.F eat-INF.F have.to-PFV.F
 ‘Raam had to eat the bread.’

Most IA languages show some constructional meanings in a sequence formed from a perfect participle and a past auxiliary (one example is that the participle alone can encode simple past, while the addition of the past auxiliary encodes past perfect). Interestingly, Kutchi has a more advanced constructional meaning, where the auxiliary directly takes an infinitive, yielding the meaning of ‘want’; the verb participle to be expected here is absent.

- (19) a. Valji-ne bakri kha-vi par-i (thi).
 Valji.M-ACC goat.F eat-INF.F have.to-PERF.F AUX.PAST.F
 ‘Valji had to eat the goat.’
 b. Valji-ne bakri kha-vi Ø thi.
 Valji.M-ACC goat.F eat-INF.F WANT AUX.PAST.F
 ‘Valji wanted to eat the goat.’

The individual IA languages show a number of factors interacting with LDA formation. An interesting case in this respect is the LDA with the apparent subject of a passive construction, formed by means of the matrix ‘go+be’. In (20a), the embedded verb agrees with what seems to be the subject of a long passive (which requires a VC configuration), while in (20b), it does not. The reason is that the animacy effect in (20) in fact belongs to differential *object* marking, thus, (20) rather shows an impersonal passive in which only the original subject is dropped.

- (20) a. roTii>(*ko) khaa-nii chaah-ii gay-ii thii. *Hindi*
 bread (*ACC) eat-INF.F want-PERF.F go-PERF.F be.F.SG
 ‘Bread was wanted to be eaten.’ (=Someone wanted to eat bread.)
 b. mujh-ko dekhne chaah-aa gay-aa thaa.
 I-ACC(fem) see-INF.D want-D go-PERF.D be.D
 ‘I was wanted to be seen.’ (=Someone wanted to see me.)

There remain several problems to be solved. One major problem is the following: Considering scope ambiguities, the relationship between LDA readings and non-LDA reading is turned if one considers subject and object rather than matrix predicate and object (compare with the examples in (10) above). According to Chandra (2005:18, 2007:74), the ergative LDA construction (21a) has only one reading, while the nominative non-LDA construction (21b) has two readings. There must be some factor which makes the VP complement of a nominative subject more transparent than the VP complement of an ergative subject.

- (21) a. kisi shaayar-ne har ghazal paRh-nii chaah-ii. *Hindi*
 some poet-ERG every poem.F.SG read-INF.F.SG want-PERF.F.SG
 ‘Some poet wanted to recite every poem.’ (some > every, *every > some)
 b. koi shaayar har ghazal paRhn-aa chaah-taa he.
 some poet.NOM every poem.F.SG read-INF.D want-PRES.D be.3.SG.
 ‘Some poet wants to recite every poem.’ (some > every, every > some)

6. Resumé

- ▷ The data show noncomplementarity of case and agreement in general, which suggests that there is no principled case-agreement association. The non-prototypical languages in this array are not small: Nepali has 13 mill. speakers, and Kutchi has nearly 2 millions. Thus, the failure of association is not just a transient phenomenon of mismatching.

	subject agreement	object agreement
NOM-ACC	✓	✓ (Kutchi)
ERG-ABS	✓ (Nepali)	✓

- ▷ Therefore, the description of case should not take recourse to agreement, and the description of agreement should not take recourse to case. Only at the first glance does Hindi agreement depends on case. A more informed investigation reveals that both case and agreement are determined by the underlying argument hierarchy (= ‘abstract case’), and moreover depend on aspect (perfect or not), as far as the subject is concerned, and on salience features (such as definiteness) for the object.
- ▷ The variation found in the Indo-Aryan case and agreement systems is best be captured by variable constraint rankings. In particular it is possible that certain constraints overlap in one language, while they are clearly ranked in another one. Parametrization of purely syntactic features is unable to capture such a variation.
- ▷ Whether an infinitive usually agrees with its object is not crucial for the analysis. However, it would be surprising if an infinitive never agrees with its object unless it is involved in LDA; properties of a clause usually do not depend on interclausal properties.
- ▷ LDA is enabled by a small set of ‘restructuring’ matrix verbs (control or raising verbs); whether actually LDA takes place is the outcome of some specific constraint interaction. There is no requirement to achieve LDA; in particular, LDA cannot be considered to be the last resort of achieving some agreement because default forms (lacking agreement) are generally available.
- ▷ LDA is not agreement between verbs, but corresponding agreement of verbs with an embedded argument.
- ▷ LDA is triggered by the existence of VC formation. Conversely, the occurrence of LDA forces VC formation to emerge as a lexical option. That is certainly *not* a post-syntactic option.

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