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A fresh look at grammatical relations in Indo-Aryan☆

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Abstract

Verb agreement in Hindi has recently been shown to be sensitive to both argument structure and morphological case features (Mohanan, 1994): the verb agrees with the 'highest nominative' argument, i.e., with a nominative S- or A-argument, or if there is no nominative A, with a nominative O-argument (where S = 'single argument of intransitives', A = 'transitive actor', O = 'transitive object'). In this article we propose that such a combination of morphological and syntactico-semantic notions is a general characteristic of the over-all syntax of many if not all Indo-Aryan languages. On the basis of constructions which are demonstrably sensitive to grammatical relations, viz. verb agreement, gapping in nonfinite clauses, control constructions and matrix-coding ('raising'), we argue that these relations are defined as 'nominative or ergative S/A' in Maithili and Nepali. Hindi shows a split between some constructions being sensitive to the same grammatical relation and others to a notion of 'non-genitive S/A' (gapping in converb clauses) and to 'highest nominative' (agreement). Other constructions, viz. conjunction reduction, converbial reference control, and reflexivization, prove not to be sensitive to grammatical relations, in contradiction to frequent assumptions made in the literature on Indo-Aryan syntax.

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1. Introduction

Languages with ergative case-marking are well-known to often display accusative-style syntax (Anderson, 1976; Dixon, 1979, 1994; Foley and Van Valin, 1984; Van Valin and LaPolla, 1997; Lazard, 1994, etc.). Grammatical relations (GRs), as manifest in constructions like control or matrix-coding ('raising'), typically revolve around a notion of 'pivot' that is completely dissociated from the case-marking system of the language. In Bickel (1997; in press), the 'hidden' nature of such pivots is put into contrast with the overt case-marking of GRs in European languages such as German or Russian, where the nominative case desinence is a fairly reliable guide to the subject GR. Modern Indo-Aryan languages provide interesting cases in-between. Elaborating on earlier suggestions by Kachru et al. (1976), Mohanan (1994) has shown that agreement in Hindi operates on a combined morphological and syntactico-semantic notion of 'highest nominative argument', where 'highest' is defined on the Subject >> Object >> Adjunct hierarchy, and, by mediation of a linking theory (of the kind proposed by Bresnan and Kanerva, 1989, or with similar results, by Foley and Van Valin, 1984), ultimately on an argument role hierarchy ranging from most to least agentive arguments. This is illustrated by the following examples (Mohanan, 1994: 103–104):[1]

(1) a. Ravī bālak-ko uṭhā-e-gā. [H]
R.(M):NOM boy-DAT lift-3s-FUTsM
'Ravi will lift up the boy.'

[1] All languages under consideration show 'differential object-marking' (Bossong, 1985), marking definite and other high-empathy objects of transitive verbs with the same case suffix that is used for the beneficiary argument of ditransitive verbs. We use the term 'dative' for this case. Case-markers in Indo-Aryan languages show properties of both enclitic postpositions and suffixes. We chose to represent them as suffixes. Consistent with this, we also represent aspectual modifier verbs ('vector verbs', 'explicators', 'postverbs', 'aspectualizers', 'aspectual verbs') as suffixes. Nothing crucial for our argument depends on these choices (except if Hindi agreement is analyzed as depending on a distinction between NP and PP – a proposal made by Gair and Wali, 1989, but shown by Mohanan, 1994: 105f., to result in problematic complications; also see Bickel, 1999, for discussion).

In interlinear glosses, we use the following abbreviations: ABL 'ablative', AUX 'auxiliary', CAUS 'causative', COMP 'complementizer', CONV 'converb (conjunct participle)', DAT 'dative', DEM 'demonstrative', ERG 'ergative', F 'feminine', FUT 'future', GEN 'genitive', h 'honorific', ICONV 'imperfective converb', IMP 'imperative', INF 'infinitive', INVOL 'involuntive', IP 'imperfective participle', IPFV 'imperfective', M 'masculine', N 'nominative (agreement feature)', NEG 'negative', NN 'non-nominative (agreement feature)', NOM 'nominative (case)', NPT 'non-past', OBL 'oblique (case)', p 'plural', P '(aspectually neutral/unmarked) participle', PASS 'passive', PRES 'present', PT 'past', REM 'remote', s 'singular', TEL 'telic (Aktionsart)'.

b. Ravī-ne roṭī khā-yī.
R.(M)-ERG bread(sF):NOM eat-PTsF
'Ravi ate bread.'
c. Ravī roṭī khā-e-gā.
R.(M):NOM bread(sF):NOM eat-3s-FUTsM
'Ravi will eat bread.'

If there is only one nominative NP argument, the verb agrees with it regardless of whether it is subject (a) or object (b). If there are two nominative NP arguments, agreement is with the one higher on the role hierarchy, i.e., with the subject (c). The two conditions show that the Hindi agreement rule is sensitive to both case and argument role.

In this paper we argue that such a combination of morphological and syntactico-semantic notions is not limited to agreement nor to Hindi, but is a general characteristic of the over-all syntax of many if not all modern Indo-Aryan languages. We chose as case studies three languages with maximally distinct case and agreement typology, viz. Hindi, Nepali and Maithili. Hindi and Nepali, but not Maithili, have ergative case-marking, while Hindi and Maithili, but not Nepali, restrict syntactic agreement to nominative arguments. Maithili has in addition a secondary and a tertiary set of agreement markers that register oblique NPs, PPs and conversationally implicated discourse referents (Yadava, 1996; Bickel et al., 1999).

Our arguments are based on three sets of GR-sensitive constructions: apart from verb agreement, we explore gapping in nonfinite (infinitival, participial and converbial) clauses and argument sharing in control and matrix-coding ('raising') constructions. For each construction, we first demonstrate that it is at all sensitive to a GR before determining the exact nature of this GR. This methodological precaution is highly needed because much discussion of Indo-Aryan GRs rests on *prima facie* evidence which uncritically assumes that constructions like reflexives, converb chains, and conjunction reduction are GR-sensitive in all languages. Closer scrutiny reveals this to be an unwarranted assumption.

We proceed as follows: in section 2 we define some analytical terms and discuss the basic assumptions we make about the mapping from argument semantics to syntax. Section 3 is devoted to issues of agreement, focusing in particular on the complex patterns found in Maithili. In section 4 we discuss GR-sensitive constructions, showing that in each of them, the definition of GRs must include reference to one or two case features, partly in the same way through all three languages, and partly in differing ways. Section 5 takes issue with the frequent claims in the literature that experiencer datives have subject properties in Indo-Aryan languages. We demonstrate that such claims are based on untenable analyses of the constructions which are used to test for subjecthood. Section 6 summarizes our findings and draws some conclusions of theoretical interest.

2. Grammatical relations, pivots and argument roles

In this paper, we use the term 'pivot' as a morphology-free notion defined as the partial neutralization of argument roles in a certain construction (cf. Dixon, 1979; Foley and Van Valin, 1984; Van Valin and LaPolla, 1997; Palmer, 1994). Using what has become the standard abbreviations – S for the 'single argument of intransitives and passives', A for the 'most agentive argument of transitives' and O for the 'most patientive argument of transitives' – we define 'S/A' as an accusative-style pivot and 'S/O' as an ergative-style pivot. We distinguish 'pivot' from a more general notion of 'grammatical relation' (GR) which can be defined by any argument-based constraint on a construction and may involve pivots as well as morphological or phrase-structural features.

We assume that S, A and O are strictly determined by the semantic argument structure of the predicate. Predicates with only one argument license an S-argument, irrespective of its case. Thus, we assume that both of the following Maithili examples contain an S-argument:

(2) a. o hãs-l-aith. [M]
3hREM:NOM laugh-PT-3hN
'He$^{h.rem}$ laughed.'
b. hunkā hãs-ā-ge-l-ainh.
3hREM:DAT laugh-INVOL-TEL-PT-3hNN
'He$^{h.rem}$ burst into laughing.'

Example (b) is as intransitive as (a), but it is marked by the 'involuntive' morpheme (cf. Gair, 1971; Bashir, 1990), which signals that the highest argument of the host predicate is not so much a willful instigator of an action but rather its experiencer. As a concomitant of involuntive marking, the corresponding NP receives dative instead of nominative case-marking. This, however, does not change the status of this NP as S, i.e., as the single argument of an intransitive clause.[2] The predicate does not become impersonal or 'a-transitive' like, say, a weather expression (cf. Van Valin and LaPolla, 1997: 150), and therefore still obligatorily triggers verb agreement (although of a different type than with nominative S-arguments – see section 3 below).

Determining the A- and O-arguments of transitive verbs is in most cases straightforward. In the languages under consideration, the choice of A and O depends on the universal hierarchy of thematic roles reproduced in (3) (cf., among many others, Foley and Van Valin, 1984; Givón, 1984; Bresnan and Kanerva, 1989 for similar hierarchies in different theoretical frameworks):

[2] For reasons against assuming a 'split' S in Maithili, see below.

(3) *Thematic hierarchy*

A ←——————————————————————→ O

Agent	Effector	Goal	Locative	Theme	Patient
	Perceiver	Experiencer	Stimulus		
	Possessor	Recipient	Possessed		
	etc.	etc.	etc.		

Most important for our current purposes is that experiencers range higher than stimuli. Therefore, from the point of view of argument structure, both the experiencers *o* 's/he' in (4a) and *hunkā* 'him/her' in (4b) are higher on the hierarchy than the sources of the experience; hence, the experiencers are A-arguments whereas the stimuli are O-arguments in both examples:

(4) a. o okrā cāh-ait ch-aith. [M]
3hREM:NOM 3nhREM:DAT like-IP AUX-3hN

b. hunkā u man par-ait ch-ainh.
3hREM:DAT 3nhREM:NOM liking occur-IP AUX-3hNN
'S/he$^{h.rem}$ likes him/her$^{nh.rem}$.'

Thus, as with intransitive clauses, the case frame is irrelevant for determining argument roles. While we assume that argument role assignment is strictly predicted by the semantic structure of the predicate, it does not follow that S, A and O must be mapped into GRs, and in the following sections we will indeed demonstrate that dative-marked S/A-arguments are not included in the definition of language-specific GRs[3] – in spite of the fact that the verb agrees with such arguments as in the preceding examples. It is characteristic of Maithili that the verb obligatorily agrees with dative-marked S- (2b) and A-arguments (4b). However, in the next section we will see that this type of agreement does not involve a GR.

3. Agreement and the multiple agreement challenge from Maithili

In a recent paper, Yadava (1997) proposed that Mohanan's (1994) analysis of Hindi, which was briefly illustrated in the introduction, essentially carries over to Nepali and Maithili in that the agreement rules of all three languages make reference to case as much as to pivots. The languages differ, however, as to which particular cases are relevant.

Where there are two nominative NPs in a Nepali clause, agreement is with the higher argument, just as in Hindi. Unlike in Hindi, however, there is no agreement with nominative objects. Instead, the verb agrees with the ergative A-argument:

[3] Like case-marking, other predicate-specific properties of arguments may block projection of experiencers into a specific GR as well. In English, for example, predicates like *please* or *surprise* assign the experiencer to a postverbal position and this phrase-structural property blocks the argument from functioning as the S/A-pivot in constructions such as raising or coordination. This is further discussed in Bickel (1999).

(5) a. ma yas pasal-mā patrikā kin-ch-u. [N]
1sNOM DEM:OBL store-LOC newspaper:NOM buy-NPT-1s
'I buy the newspaper in this store.'
b. maile yas pasal-mā patrikā kin-ẽ. (*kin-yo)
1sERG DEM:OBL store-LOC newspaper:NOM buy-PT1s buy-PT3sM
'I bought the newspaper in this store.'

Thus, the agreement rule of Nepali reads:

(6) *Nepali agreement rule:*
The verb agrees with the nominative *or* ergative S/A-argument.

Arguments in other cases never trigger agreement, regardless of whether they are in A-role (7a) or O-role (7b):

(7) a. malāī timī man par-ch-au. (*par-ch-u) [N]
1sDAT 2mhNOM liking occur-NPT-2mh occur-NPT-1s
'I like you.'
b. hijo usle timīlāī bajār-mā dekh-yo. (*dekh-yau)
yesterday 3sERG 2mhDAT market-LOC see-PT3sM see-PT2mh
'Yesterday he saw you in the market.'

This also holds for the (derived) S-argument of passive sentences which are optionally encoded by datives (8a). If S is in the nominative, by contrast, it triggers agreement, although an impersonal construction is possible as well (8b).

(8) a. malāī ṭhag-ī-yo *vs.* *ṭhag-ī-ẽ. [N]
1sDAT cheat-PASS-PT3sM cheat-PASS-PT1s
'I got cheated.'
b. ma ṭhag-ī-ẽ *or* ṭhag-ī-yo.
1sNOM cheat-PASS-PT1s cheat-PASS-PT3sM
'I was cheated.'

In Maithili, the rules of agreement are more complex, since, as we saw in examples (2b) and (4b) in the preceding section, even dative S/A-arguments trigger agreement. However, as a closer look at the examples and the overview in Table 1 makes evident, the agreement markers for oblique NPs are with few exceptions systematically different from the nominative agreement markers (Bickel et al., 1999). Maithili verb inflection is directly sensitive to the difference in how arguments are case-marked. A dative S-argument triggers 'non-nominative' agreement, while a nominative S-argument controls 'nominative' agreement:

(9) a. hunkā ḍar lag-l-ainh. (*lag-l-aith) [M]
3hREM:DAT fear feel-PT-3hNN feel-PT-3hN

b. o ḍar-l-aith. (*ḍar-l-ainh)
3hREM:NOM be.afraid-PT-3hN be.afraid-PT-3hNN
'He$^{h.rem}$ was afraid.'

Table 1
Nominative and non-nominative single agreement in Maithili (Bickel et al., 1999)

Person	Tense	Nominative	Non-nominative
1/2h	present	-i	ai-
	past	-aũ(h) ~ -i	ø
	future	-b	-t
2nh		-æ	-au(k)
2mh		-a(h)	
3nh	present	ai-	
	past	-a(k) ~ ø	ø
	future	-t	
3h	present/past	-aith	-ain(h)
	future	-t-ā(h)	-t-ain(h)
3hh	present/past	-ath-inh	-ain(h)
	future	-t-ah-inh	-t-ain(h)

While occasionally, the difference between non-nominative and nominative agreement correlates with a difference in control (cf. the examples in 2 above), this is not always the case. Nominative agreement covers agents (10a) as much as patients (10b):

(10) a. o kitāb nahi paḍh-l-aith. [M]
3hREM:NOM book:NOM not read-PT-3hN
'He$^{h.rem}$ didn't read the book.'
b. o khas-l-aith.
3hREM:NOM fall-PT-3hN
'He$^{h.rem}$ fell.'

Likewise, non-nominative agreement can index the most patientive (11a) as much as the most agentive (11b) arguments of bivalent predicates:

(11) a. u hunkā māra-l-k-ainh. [M]
3nhREM:NOM 3hREM:DAT beat-PT-3N-3hNN
'S/he$^{nh.rem}$ beat him/her$^{h.rem}$.'
b. hunkā-sā kitāb nahi paḍha-l ge-l-ainh.
3hOBL-ABL book:NOM not read-P AUX:PASS-PT-3hNN
'The book was not read by him/her$^{h.rem}$.'

Thus, the distinction does not rely on a 'split-S' or 'fluid-S' system as described by Dixon (1994) nor does it reduce to a difference in what is called 'initial GR' in Relational Grammar. The only systematic correlate of the inflectional split is the case-

frame that is used with each verb.[4] Frames with non-nominative agreement often associate with experiencer constructions, but this is, as is evidenced by (11b), by no means necessarily so.

Non-nominative agreement is obligatory with arguments, but the same marking is optionally also used to index other participants, whether they are overt in the clause or taken from the wider context. In these cases, non-nominative marking fulfills similar functions as a *dativus (in)commodi* (12a) or an external possessor (12b):

(12) a. ham cail-je-b-ah. [M]
1NOM move-TEL-FUT[1N]-2mhNN
'I will go away (if you^{mh} don't want me to stay).'
b. ham okrā mār-l-i-ah.
1NOM 3nhREM:DAT beat-PT-1N-2mhNN
'I beat him$^{nh.rem}$ (who is related to you^{mh}, etc.).'

As argued by Bickel et al. (1999), non-nominative agreement in Maithili is more an index of social status rather than of a specific GR. By stark contrast, nominative agreement strictly follows the pattern defined in (6) for Nepali. However, since there is no ergative case in Maithili, the agreement rule can be reduced to the following:

(13) *Maithili syntactic agreement rule:*
The verb agrees with the nominative S/A-argument.

A dative S-argument can therefore never trigger nominative agreement, and this is exactly what we found in example (9).

4. Complex constructions constrained by grammatical relations

In the preceding section we saw that in all the three languages, verb agreement – at least in strictly syntactic systems – refers to a GR that is simultaneously defined by argument roles ('S/A', 'highest argument') and case features ('nominative', 'nominative or ergative'). In this section, we discuss a series of complex constructions which are constrained by a specific type of GR. We will see that the definition of these GRs systematically excludes arguments in the dative, even if they bear the S- or A-argument role.

[4] Alternatively, one could say that the agreement choice correlates with a lexical diacritic such as 'M[acrorole]-transitivity' as proposed in Role and Reference Grammar (Van Valin and LaPolla, 1997): the verbs in (2b) and (9a) would be marked as 'M-atransitive' and nominative agreement would be limited to verbs with at least one Macrorole. Whether case frames are taken in this manner to follow from M-transitivity, whether they are analyzed as lexical idiosyncrasies, or whether they are derived from independent constructional principles (Goldberg, 1995), is a theoretical question beyond the scope of this paper (but see Bickel, 1999).

4.1. Nonfinite clauses

Infinitival and participial clauses in Hindi and Maithili behave like their counterparts in Western Indo-European languages: they proscribe NPs with a certain case feature. Whereas Maithili exactly parallels Germanic or Slavic in banning the nominative, Hindi also bans the ergative from appearing on S/A-arguments in such clauses:

(14) *Maithili and Hindi constraint on infinitives and participles:*
Infinitival and participial clauses must not contain an overt nominative or ergative S/A-argument. If the S/A-argument is to be overt, its case must be demoted to the genitive or dative.

Hindi resorts to genitives in both complement and attributive clauses, although datives also seem to be possible in at least some varieties. The following examples illustrate a subject complement clause:

(15) a. *[Rām-ne/Rām aisī kitāb paḍh-nā] ṭhīk nahĩ hai. [H]
R.-ERG/R.:NOM such book:NOM read-INF right not is
b. [Rām-kā/Rām-ko aisī kitāb paḍh-na] ṭhīk nahĩ hai.
R.-GENsM/R.-DAT such book:NOM read-INF right not is
'It is not good for Ram to read such a book.'

The same pattern holds in attributes, but the genitive case marker, like all attribute-marking morphemes in Hindi, inherits the gender and number features of the head noun:

(16) a. *[$_{NP}$ [$_{AP}$ [$_{NP}$ Rām-ne/Rām] [$_{A'}$ [$_{A}$ paḍh-ī hu-ī]]] [$_{N'}$ [$_{N}$ kitāb]]] [H]
R.-ERG/R.:NOM read-PsF AUX-PsF book(sF)
b. [$_{NP}$ [$_{AP}$ [$_{NP}$ Rām-kī] [$_{A'}$ [$_{A}$ paḍh-ī hu-ī]]] [$_{N'}$ [$_{N}$ kitāb]]]
R.-GENsF read-PsF AUX-PsF book(sF)
'the book read by Ram'

Maithili also uses genitives in attribute clauses, but resorts to datives in complement clauses:

(17) a. *[Rām ehan kitāb paḍh-ab] ṭhīk nahi ai-ch. [M]
R.:NOM such book:NOM read-INF right not 3-be
b. [Rām-kẽ ehan kitāb paḍh-ab] ṭhīk nahi ai-ch.
R.-DAT such book:NOM read-INF right not 3-be
'It is not good for Ram to read such a book.'

In neither Hindi nor Maithili are dative S-arguments affected by the demotion rule in (14) (cf. Hook, 1990). Indeed, replacing datives by genitives is ungrammatical:

(18) a. [[Rām-ko gussā ho-ne] par] pitā-ne usko
R.-DAT anger(sM) be(come)-INF:OBLsM on father-ERG 3sDAT
piṭ-ā. [H]
beat-PTsM
b. *[[Rām-ke gussā ho-ne] par] pitā-ne
R.-GEN:OBLsM anger(sM) be(come)-INF:OBLsM on father-ERG
usko piṭ-ā.
3DAT beat-PTsM
'Father beat Ram when he became angry.'

In Maithili, too, there is a clear contrast between nominative S-arguments which are demoted to genitive as in (19a) and dative S-arguments which retain their case (19b):

(19) a. [[Rām-ak/*Rām kæ-l ge-l] kāj] [M]
R.-GEN R.:NOM do-P AUX-P work
'the work done by Ram'
b. [[Rām-kẽ nik lāg-al] cij]
R.-DAT good feel-PT thing
'the thing that Ram felt good about'

Hindi extends the ban on overt S/A-arguments with specific case-markers onto the sequential converb (also known as 'conjunctive participle', 'absolutive' or *pūrvakālik kriyā* 'prior tense verb'). S/A-arguments in the nominative, the ergative and the dative are impossible – except for a few lexically specified expressions such as *āṭh baj-kar* 'having struck eight, at eight o'clock' (cf. Guru, 2026: §627; Schumacher, 1977: 76–94):[5]

(20) a. *tum kal nahĩ ā-kar kuc kām nahĩ
2mhNOM tomorrow not come-CONV some work(sM):NOM not
ho-gā. [H]
be:3s-FUTsM
'If you don't come tomorrow, there won't be any work.'
b. *pitā-jī-ne ciṭhī likh-kar calā-ga-yā.
father-h-ERG letter:NOM write-CONV move-TEL-PTsM
'After writing a letter, father went away.'
c. *Harī-ko buqhār ā-kar maĩ cintit ho-ga-yā.
H.-DAT fever come-CONV 1sNOM worried be(come)-TEL-PTsM
'When Hari got fever, I became worried.'

[5] Other exceptions noted by Schumacher (1977) are not fully convincing since they all involve verbs of existence or emergence in either the converb or the main clause: in some cases, the nominative could as easily be analyzed as part of the (complex) converb predicate instead of as its subject and in other cases as the subject of an existential main clause predication. Some other examples seem to be anacoluthic, as Schumacher states himself (1977: 93).

The same holds for the imperfective converb in *-e*:

(21) a. *tum phāṛ-e yah gā̃ṭh nahī̃ phaṭ-e-gī. [H]
2mhNOM split-ICONV DEM log(sF):NOM not split-3s-FUTsF
'Inspite of your splitting, this log won't split apart.'
b. *mujhe buqhār ā-e (hu-e) usne kām
1sDAT fever come-ICONV AUX-ICONV 3sERG work(sM):NOM
ki-yā.
do-PTsM
'He did the work when I suffered from fever.'

However, if demoted to genitive, an S/A-argument can appear in a converb clause (cf. Guru, 2026; Schumacher, 1977; Subbarao, 1984):

(22) a. tumhāre kal nahī̃ ā-kar kuc kām nahī̃ [H]
2mhGEN tomorrow not come-CONV some work(sM):NOM not
ho-gā.
be:3s-FUTsM
'If you don't come tomorrow, there won't be much work.'
b. tumhāre phāṛ-e yah gā̃ṭh nahī̃ phaṭ-e-gī.
2mhGEN split-ICONV DEM log(sF):NOM not split-3s-FUTsF
'Inspite of your splitting, this log won't split apart.' (Schumacher, 1977: 202)

Thus, the constraint does not involve a general notion of S/A-pivot, but is again sensitive to a specific case feature:

(23) *Hindi constraint on converbs:*
Apart from a few lexically determined exceptions, an overt S/A-argument in Hindi converb clauses can only be in the genitive.

In Maithili, S/A-arguments are banned from converbs if they are in the nominative but not if they are in the dative:

(24) a. *ham ghar āib-kẽ pitā-jī khuśī he-t-āh. [M]
1NOM home come-CONV father-h:NOM happy be(come)-FUT-3hN
b. hamrā ghar āib-kẽ pitā-jī khuśī he-t-āh.
1DAT home come-CONV father-h:NOM happy be(come)-FUT-3hN
'When I come home, father will be happy.'

Thus, Maithili converb clauses are subject to the same constraint as infinitival and participial clauses (cf. 14). Crucially, the construction is again sensitive to both case features and argument roles.

Nepali is different from Hindi and Maithili in overtly allowing subjects without enforcing any case demotion rule (cf., among others, Verma, 1976). Both nomina-

tive and ergative are fine in complement (25), attribute (26) and converb (27) clauses:[6]

(25) a. [Rām ghar jā-nu] ṭhik hoina. [N]
R.:NOM home go-INF right is.not
'It's not good for Rām to go home.'
b. [Rām-le yasto kitāb paḍh-nu] ṭhik hoina.
R.-ERG such book:NOM read-INF right is.not
'It's not good for Rām to read books.'

(26) a. [[Rām ga-eko] bāṭo] [N]
R.:NOM go-P way
'the way Rām went'
b. [[Rām-le gar-eko] kām]
R.-ERG do-P work
'the work done by Rām'

(27) a. timī bharai na-ā-īkana hāmro gaph-ai jā̃-daina. [N]
2sNOM evening NEG-come-CONV 1pGEN chat-EMPH go-NPT3sNEG
'Unless you come in the evening, our chat can't go on.' (Clark, 1989: 164)
b. timī-le bhan-era mātrai yo kām gar-yo.
2mh-ERG say-CONV only DEM work:NOM do-PT3sM
'He did this only because you told him so.'

Thus, considered by themselves, non-finite clauses in Nepali are not sensitive to any GR-notion at all. This is different when we look at non-finite clauses embedded in control constructions, to which we turn in the next section.

4.2. Argument sharing in control constructions

If used with infinitival or participial complements, some verbs impose obligatory control of one of the subordinate arguments. In all the three languages under consideration, this is the nominative or ergative S/A-argument, but never a dative NP – even if it is in S/A-role:

(28) *Constraint on argument sharing (Hindi, Maithili, Nepali):*
The shared argument (i.e., the argument position that is obligatorily covert and coindexed with a higher-clause argument) in a control construction must be a nominative or ergative S/A-argument.

Shared arguments in control constructions correspond to what is sometimes referred to as '*PRO* under obligatory control' but the notion chosen here, which we

[6] Converbs without demotion rules or subject coreference constraints are attested in other Indo-Aryan languages as well, notably in Marathi (Pandharipande, 1990: 178). Rosen and Wali (1989: 14f.) provide counter-examples to Pandharipande's findings, which, however, are not conclusive because they involve agentive verbs in the matrix clause. From a general Indo-Aryan perspective, it seems to us pragmatically unlikely that one would get non-subject coreference in such cases (e.g., *C having V-ed, A gives B to C*).

adopt from Van Valin and LaPolla (1997), will allow simpler generalizations in later sections. Shared arguments are obligatorily, rather than optionally, gapped and coindexed (EQUI-deleted) and cannot therefore be replaced by overt lexical NPs even if these NPs have a different reference from any matrix-clause argument. This is important to notice because the Argument Sharing Constraint in (28) exclusively refers to cases like (29), where 'ø' represents an argument that is shared, i.e., both coindexed and obligatorily covert:

(29) a. Rām-ne Harī-ko$_i$ [ø$_{i,*j}$ usko$_{*i}$ piṭ-ne-ke liye] [H]
R.-ERG H.-DAT 3sDAT beat-INF:OBLsM-GEN:OBLsM for
kah-ā.
tell-PTsM
'Ram told Hari to beat him.'
b. *Rām-ne Harī-ko$_i$ [vah/uske ø$_i$ piṭ-ne-ke
R.-ERG H.-DAT 3sNOM/3sGEN beat-INF:OBLsM-GEN:OBLsM
liye] kah-ā.
for tell-PTsM
'Ram told Hari to get beaten by him.'

As shown by the referential indices in (29a), the A-argument must be coreferential with *Harīko* and, as is evident from the ungrammaticality of (29b), it must not be overt. This is different from the non-controlled infinitival constructions we looked at in the preceding section, where S/A-arguments could appear in a demotion case (genitive or dative). Non-shared argument can of course also be gapped, resulting in '*PRO* under optional control'. If they are gapped, they have the properties of a *PRO*-element and can therefore be controlled (30a). Unlike shared elements, however, their reference can also be free or 'arbitrary' (30b):

(30) a. [*PRO*$_i$ khālī kar-ne-ke liye] [H]
empty make-INF:OBLsM-GEN:OBLsM for
nāvik-ne nāv-ko$_i$ āge baḍhā-yā.
boatsman-ERG boat-DAT forward move-PTsM
'The boatsman moved the boat [into the port] in order to unload it.'
b. ḍāktar-ne Rām-ko [*PRO*$_{arb}$ bhūk lag-ne-ke
doctor-ERG R.-DAT appetite feel-INF:OBLsM-GEN:OBLsM
liye] davā d-ī.
for medicine(sF):NOM give-PTsF
'The doctor gave Ram medicine for feeling appetite.'

Thus, two features distinguish shared arguments (ø) from other instances of *PRO*: (i) the fact that they do not alternate with overt NPs and (ii) the fact that their reference is obligatorily controlled.

Shared arguments in Hindi can be S-arguments (31a) as much as A-arguments in either nominative (31b) or ergative (31c) case-function:

(31) a. Rām Hari$_i$ par [ø$_i$ nahĩ gir-ne-ke liye] [H]
R.:NOM H.:OBL on not fall-INF:OBLsM-GEN:OBLsM for
cillā-yā.
shout-PTsM
'Ram shouted at Hari not to fall.'

b. vah$_i$ [ø$_i$ sāikal calā-nā] cāh-tā
3sNOM NOM cycle(sF):NOM manipulate-INFsM want-IPsM
hai.
AUX:3sM
'He wants to ride a bike.'

c. vah$_i$ [ø$_i$ sāikal calā-nī] cāh-tā hai.
3sNOM ERG cycle(sF):NOM manipulate-INFsF want-IPsM AUX:3sM
'He wants to ride a bike.'

The difference between shared nominatives (31b) and shared ergatives (31c) can be recovered through the gender agreement found on the infinitive (Subbarao, personal communication): if the shared argument is associated with the nominative case, the infinitive agrees with it, otherwise the infinitive agrees with the nominative object. This follows in a straightforward manner from the regular Hindi agreement pattern.[7]

By contrast to S/A-arguments in nominative or ergative cases, dative S-arguments as in (32a) cannot be shared (32b) (cf. Klaiman, 1979; Davison, 1985a; Hook, 1990). To be sure, they can be gapped as we saw in (30b) above, but they cannot be the obligatorily shared argument in control constructions. Only the nominative versions, where *ḍar-* 'fear' is used as an intransitive verb, are possible (32c):[8]

(32) a. Harī-ko ḍar nahĩ hu-ā. [H]
H.-DAT fear not be(come)-PTsM
'Hari was not afraid.'

b. *Rām-ne Harī-ko$_i$ [ø$_i$ ḍar nahĩ ho-ne-ke
R.-ERG H.-DAT fear not be(come)-INF:OBLsM-GEN:OBLsM
liye] kah-ā.
for tell-PTsM
'Ram told Hari not to be afraid.'

c. Rām-ne Harī-ko$_i$ [ø$_i$ nahĩ ḍar-ne-ke liye]
R.-ERG H.-DAT not fear-INF:OBLsM-GEN:OBLsM for

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[7] Version (31c) is generally more 'marked' than (31b) and seems to focus the object, but the two constructions are not equally used in all dialects. See Hook (1979: 29f.) and Davison (1988) for some discussion.

[8] We concur with Klaiman (1979) that Kachru et al.'s (1976) alleged counterexamples to this do not involve argument sharing ('EQUI') since they allow a generic (arbitrary) reading of the empty argument position (*PRO*), cf., e.g., *Rāmne$_i$ [PRO$_{i/arb}$ bhūkh lagnekī] bāt batāī* 'Ram told of being hungry'. On Klaiman's (1979) account, the ungrammaticality of (32b) results from a general constraint against deleting lexically specific experiencer NPs. Postulating such a constraint is in conflict, however, with examples like *Ravīko Nīnā dikhī aur ø baḍī khuśī huī* 'Ravi saw Nina and was very happy.' (Mohanan, 1994: 149; also cf. Wallace, 1985a: 141 on Nepali).

kah-ā.
tell-PTsM
'Rām told Hari not to be afraid.'

In this behavior, dative S-arguments are like objects, which, too, can function as *PRO* (30a), but not as 'ø' (29b).

The same pattern holds in Maithili and, as Verma (1990: 97) reports, also in Bhojpuri and Magahi. Object sharing is again ungrammatical (33a) and among S/A-arguments, only those associated with nominative case (33b), but not those associated with the dative (33c), can be shared:

(33) a. Rām Harī-kẽ$_i$ [ø$_{i,*j}$ okrā$_{*i}$ piṭ-bāk lel] kaha-l-ak. [M]
R.:NOM H.-DAT 3nhREM:DAT beat-INF:OBL for tell-PT-3N
'Ram told Hari to beat him$^{nh.rem}$.'

b. Rām Harī-kẽ$_i$ [ø$_i$ nahi ḍar-bāk lel] kaha-l-ak.
R.:NOM H.-DAT not fear-INF:OBL for tell-PT-3N
'Ram told Hari not to be afraid.'

c. *Rām Harī-kẽ$_i$ [ø$_i$ ḍar nahi ho-bāk lel] kaha-l-ak.
R.:NOM H.-DAT fear not be(come)-INF:OBL for tell-PT-3N
'Ram told Hari not to be afraid.'

Nepali control constructions, too, follow the principle set out in (28): an S- (34a) or A-argument (34b) cannot appear overtly and must be controlled by the matrix clause. Objects, by contrast, do not allow argument sharing (34c) and neither do dative experiencers (34d) (cf. Wallace, 1985b):

(34) a. Rām-le Harī-lāī [ø (*u) na-ḍarāu-na] bhan-yo. [N]
R.-ERG H.-DAT 3sNOM NEG-fear-INF tell-PT3sM
'Ram told Hari not to get afraid.'

b. Harī-lāī [ø (*us(-le)) Kāṭhmāṇḍū-mā paḍh-na] paṭhā-yo.
H.-DAT 3s-ERG K.-LOC study-INF send-PT3sM
'He sent Hari to study in Kathmandu.'

c. *sardār-le cor-haru-lāī$_i$ [pulis-le ø$_i$ na-dekh-na] bhan-yo.
chief-ERG thief-p-DAT police-ERG NEG-see-INF tell-PT3sM
'The chief told the thieves not to be seen by the police.'[9]

d. *Rām-le Harī-lāī [ø ḍar na-lāg-na] bhan-yo.
R.-ERG H.-DAT fear NEG-feel-INF tell-PT3sM
'Ram told Hari not to be afraid.'

The examples from Hindi and Maithili above show that clauses marked by the purposive postpositions *liye* and *lel*, respectively, are subject to the Argument Sharing Constraint. This only holds, however, if the matrix verb is specified as a control

[9] An acceptable version of this resorts to a quote construction: *sardārle corharulāī$_i$ "[pulisle ø$_i$ nadekhos hai]" bhanera bhanyo* 'The chief told the thieves$_i$ "Don't let the police see ø$_i$!".'

verb. In other contexts, a postposition-marked purpose clause can have an overt S/A-argument, although its case must be demoted following the pattern discussed in section 4.1:

(35) a. [Rām-ko (*Rām) so-ne-ke liye] [H]
R.-DAT R.:NOM sleep-INF:OBLsM-GEN:OBLsM for
maĩ yahã̃-se calā-ga-yā.
1sNOM here-ABL move-TEL-PTsM
'I moved away from here in order for Ram to (be able to) sleep.'

b. [Rām-kẽ (*Rām) sut-b-āk lel] [M]
R.-DAT R.:NOM sleep-INF:OBL-GEN for
ham yahĩ̃ ṭhām-sā uṭhī-ge-l-aũh.
1NOM here place-ABL rise-TEL-PT-1N
'I got up from this place in order for Ram to (be able to) sleep.'

In Nepali, by contrast, all postposition-marked purpose clauses are subject to the Argument Sharing Constraint. Therefore, the sentence type of (35) does not directly translate, as shown in (36a). Deleting the embedded S-argument results in Argument Sharing and therefore requires coreference with the matrix clause controller (36b). The intended meaning can only be brought about by resorting to a permissive construction that changes Ram's role into object (36c):

(36) a. *[Rām(-lāī) sut-na-kā lāgi] ma chiṭo gai-hāl-ẽ. [N]
R.-DAT sleep-INF-GEN:OBL for 1sNOM quickly go-TEL-PT1s
'I quickly left so that Ram could sleep.'

b. [$ø_{i,*j}$ sut-na-kā lāgi] ma_i chiṭo gai-hāl-ẽ.
sleep-INF-GEN:OBL for 1sNOM quickly go-TEL-PT1s
'I quickly went to sleep.'

c. [$ø_i$ Rām-lāī sut-na di-na-kā lāgi] ma_i chiṭo
R.-DAT sleep-INF give-INF-GEN:OBL for 1sNOM quickly
gai-hāl-ẽ.
go-TEL-PT1s
'I quickly left in order to let Ram sleep.'

The Argument Sharing Constraint on this construction follows again the formulation in (28), whence dative NPs (37a) cannot be shared (37b) even if they are S-arguments. To render the intended meaning (37b), one has to resort to a reported thought construction (37c):

(37) a. uslāī nidrā lāg-ena. [N]
3sDAT sleep feel-PT3sM:NEG
'He didn't get sleepy.'

b. *[$ø_i$ nidrā na-lāg-na-kā lāgi] $usle_i$ reḍio
sleep NEG-feel-INF-GEN:OBL for 3sERG radio:NOM

kholi-rākh-yo.
open-keep-PT3sM
'He kept the radio on in order not to get sleepy.'

c. *pro*$_i$ nidrā na-lāg-os bhanera usle$_i$ reḍio
sleep NEG-feel-3sIMP QUOTE 3sERG radio:NOM
kholi-rākh-yo.
open-keep-PT3sM
'He kept the radio on in order not to get sleepy.'
(Literally 'Thinking "[I] shouldn't get sleepy", he kept the radio on.')

Exactly the same distribution holds for object NPs:

(38) a. *[Rām-le ø$_i$ na-karāu-na-kā lāgi] ma$_i$ [N]
R.-ERG NEG-shout-INF-GEN:OBL for 1sNOM
gharai ga-ẽ.
home:OBL go-PT1s
'I went home so that Ram wouldn't shout at me.'

b. Rām-le *pro*$_i$ na-kar-ā-os bhanera ma$_i$ gharai ga-ẽ.
R.-ERG NEG-shout-3sIMP QUOTE 1sNOM home:OBL go-PT1s
'I went home so that Ram wouldn't shout at me.'

Another construction to which Nepali extends the Argument Sharing Constraint is based on aspectual and modal verbs. These 'light' verbs can appear in two constructions, one involving complex predicate formation (also known as 'clause union'), the other involving control in a biclausal structure. When a light verb forms a complex predicate together with an embedded verb, there is no control and the embedded verb determines the transitivity of the unified clause. This is why we get ergative marking in (39a), although *lāgnu* 'to begin, take up' by itself is intransitive and licenses only nominative case on the S-argument (39b):[10]

(39) a. maile Hindī [$_V$ paḍh-na lāg-ẽ]. [N]
1sERG H.:NOM study-INF take.up-PT1s
'I took up studying Hindi.'

b. ma (*maile) yatā tira lāg-ẽ.
1sNOM 1sERG this.side towards take.up-PT1s
'I took this way.'

When there is no complex predicate formation, the embedded verb forms its own clause, which, however, shares its A- (40a) or S-argument (40b) with the matrix:

[10] Wallace (1985a: 127, 133) marks sentences like (39a) by an asterisk or in some cases by a question mark, but concedes that they do occur in discourse and he also gives one textual example. Our consultants accepted the examples without hesitating, but we cannot exclude dialect variation, which is well-known to affect the distribution of *-le* 'ergative' in general.

(40) a. ma_i [$_{IP}$ $\emptyset_i$ Hindī paḍh-na] lāg-ẽ. [N]
1sNOM H.:NOM study-INF take.up-PT1s
'I took up studying Hindi.'
b. ma_i [$_{IP}$ $\emptyset_i$ hiḍ-na] lāg-ẽ.
1sNOM walk-INF take.up-PT1s
'I began to walk.'

Argument sharing in this construction is again subject to the constraint formulated in (28). Therefore, unlike nominative or ergative S/A-arguments, objects and dative S/A-arguments cannot be shared (41a). With objects, the intended meaning can be rendered through passivization, which promotes the object to a controllable S/A-position (41b):

(41) a. *ma_i [$_{IP}$ Harī-le $\emptyset_i$ piṭ-na] lāg-ẽ. [N]
1sNOM H.-ERG beat-INF take.up-PT1s
b. ma_i [$_{IP}$ $\emptyset_i$ Harī-bāṭa piṭ-ī-na] lāg-ẽ.
1sNOM H.-via beat-PASS-INF take.up-PT1s
'I began to be beaten by Hari.'

Dative S/A-arguments as in (42a) require complex predicate formation in order to be able to appear in a light verb construction (42b,c).

(42) a. malāī yo kitāb man par-yo. [N]
1sDAT this book:NOM liking occur-PT3sM
'I liked this book.'
b. *ma_i [$_{IP}$ $\emptyset_i$ yo kitāb man par-na] lāg-ẽ.
1sNOM this book:NOM liking occur-INF take.up-PT1s
'I began to like this book.'
c. malāī yo kitāb [$_{V}$ man par-na lāg-yo].
1sDAT this book:NOM liking occur-INF take.up-PT3sM
'I began to like this book.'

Notice that just like the ergative in (39a), the dative, too, is inherited in (42c) from the embedded verb *man par-* 'like' (which is itself complex) up to the main clause case-frame.

4.3. Argument sharing in matrix-coding ('raising') constructions

'Matrix-coding' has been proposed by Frajzyngier (1995) as a cover term for what has been variously called '*accusativus/nominativus cum infinitivo*', 'raising' or 'exceptional case-marking', without assuming the particular case and movement theories implied by these other terms (also cf. Van Valin and LaPolla, 1997: 561–575). The construction involves arguments that are assigned case by the matrix but semantic role by the embedded clause. In Indo-Aryan, matrix-coding is wide-spread in the form of dative matrix-coding ('raising to object', 'exceptional case-marking') with

verbs of perception. Apart from passive constructions, nominative matrix-coding ('raising to subject'), by contrast, is limited to two members of the so-called Bihārī group, Bhojpuri (Shukla, 1981) and Maithili (Yadava, 1998, 1999), where it involves evidential verbs similar to English *to seem*. We first discuss dative, then nominative matrix-coding.

In Nepali, matrix-coding does not involve argument sharing and even allows, given an appropriate information structure, doubling of the matrix-coded argument in the lower clause (see Frajzyngier, 1996: 261–288, for typological parallels).

(43) Harī-lāī$_i$ maile [(u$_i$) ḍarā-eko] pā-ẽ. [N]
H.-DAT 1sERG 3sNOM fear-P find-PT1s
'I found that Hari was afraid.'

In line with this, there is no GR-constraint as to what can be matrix-coded, which encompasses even O-arguments (44a) and dative S-arguments (44b):

(44) a. Harī-lāī$_i$ [Rām-le *pro*$_i$ piṭi-rah-eko] dekh-ẽ. [N]
H.-DAT R.-ERG beat-IPFV-P see-PT1s
'I saw Ram beating Hari.'
b. Harī-lāī$_i$ maile [*pro*$_i$ ḍar lāg-eko] pā-ẽ.
Hari-DAT 1sERG fear feel-P find-PT1s
'I found that he was afraid.'

This is radically different in Hindi and Maithili, where matrix-coding requires, as in English, argument sharing. That is, the matrix-coded argument must be covert and coindexed in the lower clause. Argument sharing in turn is subject to the same constraint as the one formulated in (28) for control constructions.[11] This constraint can therefore be generalized over all constructions that involve argument sharing and, if we allow for vacuous application in some instances, over all languages under consideration:

(45) *Constraint on argument sharing (generalized):*
A shared argument must be in nominative or ergative S/A-role.

The following examples illustrate this for dative matrix-coding in Hindi and Maithili. The shared argument can be an experiencer A-argument only if this argument would be assigned nominative (or ergative) in a corresponding independent clause. Dative A-arguments are excluded (cf. Kachru et al., 1976):[12]

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[11] This finding receives a natural interpretation in Role and Reference Grammar, where control and matrix-coding constructions are both analyzed as building on the same clause linkage type, 'coordinate core juncture'. See Van Valin and LaPolla (1997: 539–581) for discussion.

[12] Singh (1983: 79) discusses Maithili data like *Bābujī hamrā hriṣṭ boita dekhalathīnh* 'Father found me happy', claiming that the dative S-argument of *hriṣṭ hāyab* 'to be happy', *hamrā* 'me', is 'raised' to

(46) a. unko$_i$ maĩne [ø$_i$ (*vah) ḍar-ā hu-ā] pā-yā. [H]
3sDAT 1sERG 3sNOM fear-PsM AUX-PsM find-PTsM
b. *unko$_i$ maĩne [ø$_i$ ḍar lag-ā hu-ā] pā-yā.
3sDAT 1sERG fear feel-PsM AUX-PsM find-PT-1N
'I found that he was afraid.'

(47) a. okrā$_i$ ham [ø$_i$ (*u) ḍaræ-l] pai-l-aũh. [M]
3nhREM:DAT 1NOM 3nhREM:NOM fear-P find-PT-1N
b. *okrā$_i$ ham [ø$_i$ ḍar lāg-al] pai-l-aũh.
3nhREM:DAT 1NOM fear feel-P find-PT-1N
'I found that he$^{nh.rem}$ was afraid.'

Except for passive versions of the preceding examples, nominative matrix-coding is unknown in Nepali and Hindi,[13] but well-attested in Maithili. Different from its better-known English counterpart, however, Maithili nominative matrix-coding involves finite subordinate clauses (see Lazard, 1998: 84, for typological parallels). Nevertheless, it is, like English, subject to argument sharing, i.e., the 'raised' element leaves a gap in the subordinate clause which cannot be filled by a resumptive pronoun or anything else (cf. Yadava, 1998, 1999):

(48) a. lag-ait ai-ch [je Harī-jī bimār bha-je-t-āh]. [M]
seem-IP 3nhN-AUX COMP H.-h:NOM sick be-TEL-FUT-3hN
'It seems that Hari will become sick.'
b. Harī-jī$_i$ lag-ait ch-aith [je ø$_{i,*j}$ bimār bha-je-t-āh].
H.-h:NOM seem-IP AUX-3hN COMP sick be-TEL-FUT-3hN
c. *Harī-jī$_i$ lag-ait ch-aith [je o$_{i,j}$ bimār
H.-h:NOM seem-IP AUX-3hN COMP 3hREM:NOM sick
bha-je-t-āh].
be-TEL-FUT-3hN
'Hari seems to become sick.'

This is in minimal opposition to an experiencer dative construction with *lagab* used in the sense of 'to feel'. In this case, no matrix-coding occurs, and pronouns are free to appear in the subordinate clause:

(49) Harī-jī-kẽ$_i$ lag-ait ch-ainh [je (o$_{i,j}$) bimār [M]
H.-h-DAT feel-IP AUX-3hNN COMP 3hREM:NOM sick

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the matrix object position. We doubt whether *hamrā* is in fact raised here because unlike the matrix clause constituents in (47a), it cannot be fronted: **Hamrā bābujī hriṣṭ boita dekhalathīnh* sounds odd if not completely ungrammatical.

[13] Unless one follows Davison (1985b) and Wallace (1985a) and analyzes constructions with Hi. *lagnā* and N. *lāgnu* 'to take up, begin' as involving nominative matrix-coding ('raising-to-subject'). While, on semantic grounds, we prefer an analysis in terms of control (see section 4.2), the construction would still be subject to the same general Argument Sharing Constraint as set out in (45), even under a matrix-coding analysis. Also see note 11.

bha-je-t-āh.]
be-TEL-FUT-3hN
'Hari feels that he$^{h.rem}$ will get sick.'

Argument sharing in Maithili nominative matrix-coding is subject to the general constraint formulated in (45): while, as is evident from (48b) above, patients in S-function can be shared, they cannot be shared in transitive O-function (50a). If promoted to S by means of passivization, however, sharing is again possible (50b):

(50) a. *Harī-jī$_i$ lag-ait ch-aith [je tũ ø$_i$ nahi [M]
H.-h:NOM seem-IP AUX-3hN COMP 2mhNOM not
dekh-l-ah-unh].
see-PT-2mhN-3hNN
'*Hari doesn't seem to you^{mh} have seen.'

b. Harī-jī$_i$ lag-ait ch-aith [je ø$_i$ pulis-sā pakaḍa-l
H.-h:NOM seem-IP AUX-3hN COMP police-ABL arrest-P
ge-l-āh].
AUX:PASS-PT-3hN
'Hari seems to have been arrested by the police.'

Transitive A-arguments can be shared as well:

(51) tũ$_i$ lag-ait ch-ah [je ø$_i$ Harī-jī-kẽ nahi [M]
2mhNOM seem-IP AUX-2mhN COMP H.-h-DAT not
dekh-l-ah-unh].
see-PT-2mhN-3hNN
'You^{mh} don't seem to have seen Hari.'

S-arguments in dative case are systematically excluded from the GR defined by (45). They cannot be shared – with or without their attached case-marking:

(52) a. lag-ait ai-ch [je Harī-jī-kẽ khuśī bhe-l-ainh]. [M]
seem-IP 3-AUX COMP H.-h-DAT happy be-PT-3hNN
'It seems that Hari was happy.'

b. *Harī-jī$_i$ lag-ait ch-aith [je ø$_i$ khuśī bhe-l-ainh].
H.-h:NOM seem-IP AUX-3hN COMP happy be-PT-3hNN
'Hari seems to have been happy.'

c. *Harī-jī-kẽ$_i$ lag-ait ch-ainh [je ø$_i$ khuśī bhe-l-ainh].
H.-h-DAT seem-IP AUX-3hNN COMP happy be-PT-3hNN
'Hari seems to have been happy.'

This construction thus again confirms the generality of the Argument Sharing Constraint as proposed in (45): shared arguments, whether in control or matrix-coding constructions, must not be associated with any other case than nominative or ergative.

5. On some alleged subject properties of dative experiencer

The literature on GRs in Indo-Aryan languages is full of claims that experiencer dative-arguments have syntactic subject properties (e.g., Davison, 1969, 1985a, 1985b; Klaiman, 1979; Gupta and Tuladhar, 1979/1980; Wallace, 1985a, 1985b; Abbi, 1990; Masica, 1991; Mohanan, 1994), although more cautious positions (Kachru et al., 1976; Bhatia, 1990; Hook, 1990; Verma, 1990) and dissenting voices (Mishra, 1990; Pandharipande, 1990) have gained some ground. If experiencer datives had indeed subject properties, GRs could be largely reduced to a notion of S/A-pivot, since experiencers are automatically assigned S- or A-status by the Thematic Hierarchy discussed in section 2. Contradicting our claim, case would be irrelevant for the GR-definition. The constructions that are most commonly taken as evidence for the subjecthood of dative experiencers are converbial clause chaining, coordinate conjunction reduction, and reflexivization. In this section, we demonstrate that, under closer scrutiny, none of these constructions proves to be GR-sensitive to begin with. While there is certainly a strong universal pragmatic and semantic pressure to construe coreference around an S/A-pivot (cf. Verma, 1990; Dixon, 1994; Ichihashi-Nakayama, 1994, among others), it does not follow from this that a particular language grammaticalizes such a pivot as a syntactically defined, rigid GR. Without such a grammaticalization, however, the behavior of dative experiencers in these constructions does not tell us anything about GR-properties (but much about the pragmatic saliency of experiencers in discourse).

We saw in section 4.1 that converbs in Hindi and Maithili are sensitive to a GR defined by 'non-genitive S/A' (Hindi) or 'nominative S/A' (Maithili). Arguments bearing these GRs, and only these, are banned from appearing overtly in the converb clause, i.e., they are necessarily substituted by a *PRO*-element. It does not follow from this, however, that converbs are subject to a GR-sensitive constraint requiring coreference of the S- or A-argument. As examples (22) and (24b), repeated here as (53a) and (53b), show, converbial chains can contain overt S- and A-arguments with disjunct reference as long as they do not bear the proscribed GR:

(53) a. tumhāre kal nahĩ ā-kar kuc kām nahĩ [H]
2mhGEN tomorrow not come-CONV some work:NOM not
ho-gā.
be:3s-FUTsM
'If you don't come tomorrow, there won't be any work.'

b. hamrā ghar āib-kẽ pitā-jī khuśī he-t-āh. [M]
1DAT home come-CONV father-h:NOM happy be(come)-FUT-3hN
'When I come home, father will be happy.'

Moreover, while there is a constraint on what can be a controlled *PRO*-element (viz., a non-genitive [Hindi] or a nominative [Maithili] S/A-argument), the question as to what can be its matrix clause controller is subject to pragmatic rather than syntactic constraints, in line with Tikkanen's (1995: 496) observation that "[...] in most South and Central Asian languages, the coreference restriction for same-subject con-

verbs is semantic (*constructio ad sensum*), or even pragmatic (saliency-determined), rather than morphosyntactic". Thus, under appropriate pragmatic conditions, not only S/A-arguments, but also objects (54a), locations (54b) and possessors (54c) can control the reference of a converbial *PRO* (cf. Guru, 2026: §627; Schumacher, 1977; Hook, 1990):[14]

(54) a. [PRO_i yahã̄ nahĩ̄ ā-kar], [H]
here not come-CONV
maĩ̄ tujhe$_i$ kuc nahĩ̄ sikhā sak-tā hũ̄.
1sNOM 2sDAT some not teach can-IP AUX:NPT1s
'If you don't come here, I can't teach you anything.'

b. [PRO_i ā-kar] mere$_i$ pās bet
come-CONV 1sGEN:OBLsM near stick(sM):NOM
gir-ga-yā.
fall-TEL-PTsM
'A stick fell down near me when I came.' (Schumacher, 1977: 49)

c. [PRO_i uskī yah rukhāī dekh-kar]
3nhGENsF DEM rejection(sF):NOM see-CONV
Madhukar-ke$_i$ man-ko coṭ lag-ī.
M.-GEN:OBLsM soul(sM)-DAT hurt(sF):NOM strike-PTsF
'Seeing this rejecting attitude of hers, Madhukar's feelings were hurt.'
(Schumacher, 1977: 68)

The same appears to hold of imperfective converb clauses (Schumacher, 1977):

(55) [PRO_i khāṭ par paṛ-e paṛ-e] uske$_i$ cār-õ [H]
bed on lie-ICONV lie-ICONV 3nhGEN:OBLsM four-OBLp
or ek mohak, bhayānak-sā jāl phail-ga-yā.
side one magical frightening-like net(sM):NOM spread-TEL-PTsM
'When he was lying on the bed, a magical, somehow frightening net got spread around him.' (Schumacher, 1977: 204)

Indeed, converbs can also be without any explicit controller in the matrix at all (cf. Schumacher, 1977):

(56) a. [PRO_{arb} anya qism-ẽ videś-õ-se lā-kar] yahã̄ [H]
other type-pF:NOM abroad-OBLp-ABL bring-CONV here
par ug-ā-ī jā rah-ī haĩ̄.
at grow-CAUS-PsF AUX:PASS AUX:IPFV-PsF AUX:PRES3p
'[They] brought the other types [of peaches] from abroad and now they are grown here.' (Schumacher, 1977: 22)

[14] If the converb shares the imperative force of the matrix as in Davison's (1985b: 165) example (*jab sārī vyāvasthā ho jāe, to [PRO ākar] mujhe sucit kardenā* 'When the whole arrangement is done, come and tell me'), only the A-argument is of course a possible controller. This is a purely pragmatic issue.

b. [*PRO*$_{arb}$ *-kar* lagā-kar pūrvakālik kriyā ban-tī
CONV attach-CONV prior.tensed verb(sF):NOM make-IPsF
hai.
AUX:NPT3s
'The sequential verb is formed by attaching *-kar*.' (Schumacher, 1977: 24)

c. [*PRO*$_{arb}$ yah kām nahĩ ki-ye (hu-e)] kuc
DEM work(sM):NOM not do-ICONV AUX-ICONV some
nahĩ ban-e-gā.
not make-3s-FUTsM
'Nothing will happen without doing this work.'

The same findings apply to Maithili and many other Indo-Aryan languages.

Except for the presence of a *PRO*-element, conjunction reduction has similar properties as converbial chaining (and earlier literature often conflates the two, e.g., Kachru et al., 1976). In the pragmatically unmarked case, the dropped element (*pro*) is an S/A-argument, but this is not a syntactic constraint. The following examples show that under appropriate pragmatic and semantic conditions, the dropped element can also be the object:

(57) a. Rām$_i$ ā-yā aur sabõne *pro*$_i$ piṭ-ne lag-ā. [H]
R.:NOM come-PTsM and all:ERG hit-INF:OBL begin-PTsM

b. Rām-jī$_i$ āe-l-āh aur sab *pro*$_i$ piṭa laga-l-k-ainh. [M]
R-h:NOM come-PT-3hN and all:NOM hit begin-PT-3N-3hNN

c. Rām$_i$ ā-yo ra sabaile *pro*$_i$ piṭ-na lāg-e. [N]
R.:NOM come-PT3sM and all:ERG hit-INF begin-PT3p
'Ram came and everybody started to hit him.'

In the same way, the coreferential antecedent of the zero anaphora (*pro*) can be object as much as subject:[15]

(58) a. maĩne glās$_i$ phek-ā aur *pro*$_i$ ṭuṭ ga-yā. [H]
1sERG glass(sM):NOM throw-PTsM and break go-PTsM

b. ham glās$_i$ phẽk-l-aũh aur *pro*$_i$ ṭuiṭ ge-l. [M]
1NOM glass:NOM throw-PT-1N and break go-PT[3N]

c. maile gilas phyãk-ẽ ra *pro*$_i$ phuṭ-yo. [N]
1sERG glass:NOM throw-PT1s and break-PT3sM
'I threw the glass and it broke.'

Also within the clause, coreference relations do not observe a strict GR-constraint. Although they are frequently taken as evidence for the relevance of a notion

[15] Mohanan (1994: 134) stars other sentences with a similar syntax (**Ravīne ām$_i$ kharīdā aur ϕ$_i$ khaṭṭā niklā* 'Ravi bought a mango and it turned sour'). It seems that argument dropping in coordination is possible only if the conjuncts are pragmatically tied together by a purpose relation. This needs further research, though.

of 'subject', reflexives can in fact be controlled by both subjects and objects – depending on lexical choice and pragmatic context. The following examples show reflexives controlled by object antecedents (cf., among others, Subbarao, 1971; Mahajan, 1990; Gurtu, 1992; Yadava, 1992):

(59) a. Rām-ne patnī-ko$_i$ apnī$_i$ sārī d-ī. [H]
R.-ERG wife-DAT REFLsF sari(sF):NOM give-PTsF

b. Rām patnī-kẽ$_i$ apan$_i$ sārī de-l-ak. [M]
R.:NOM wife-DAT REFL sari:NOM give-PT-3N

c. Rām-le svasnī-lāī$_i$ āphno$_i$ sārī di-yo. [N]
R.-ERG wife-DAT REFL sari:NOM give-PT3sM
'Ram gave his wife her own sari.'

However, whereas judgments in Maithili and Nepali were virtually uniform across consultants, there was some variation among native speakers of Hindi, and this is also what characterizes a recent debate in the literature (e.g., Gurtu, 1992; Mahajan, 1993; Dayal, 1994; Mohanan, 1994). While we concur with Comrie's (1998) proposal that such variation should be subject to careful and extensive sociolectal and dialectal research, the very fact of variation makes it unlikely that constraints on reflexive antecedents are a deep-reaching characteristic of Hindi, let alone Indo-Aryan syntax, on a par with the rigid constraints discussed in the preceding sections. Instead, it is more probable that the issue is a pragmatic one and we have to reckon, therefore, with the possibility that constraints on reflexives are vulnerable to deliberate normativization of grammaticality judgments through a quest for 'clarity' and 'avoidance of ambiguity'. Indeed, natural discourse examples of O-controlled reflexives are clearly attested – even in literary style, as is evidenced by the following example adduced by Hook (1990: 331):

(60) Sultān-ne Rehān-ko$_i$ apne$_i$ pad-se haṭā-kar use [H]
S.-ERG R.-DAT REFL:OBL post-ABL remove-CONV 3sDAT
Badāyū-kī jāgir de-kar udhar ravānā
B.-GENsF civil.service(sF):NOM give-CONV there departure
kar-di-yā.
do-BENEFACTIVE-PTsM
'The sultan removed Rehan from his (Rehan's) office and, giving him the Badayun *jāgir*, sent him there.'

Whatever the case may be, Hindi consultants were more uniform in their judgments of sentences with a distributive use of the reflexive. Again, the antecedent is in O-role, much as in the Maithili and Nepali examples:

(61) a. śikṣak-ne vidyārthi-yõ-ko$_i$ apnī apnī$_{i,*j}$ kāpī [H]
teacher-ERG student-pOBL-DAT REFLsF notebook(sF):NOM
lautā d-ī.
return give-PTsF

b. śikṣak vidyārthī-sabh-kẽ$_i$ apan apan$_{i,*j}$ kāpī lautā [M]
teacher:NOM student-p-DAT REFL notebook:NOM return
de-l-aith.
give-PT-3hN

c. śikṣak-le vidyārthī-haru-lāī$_i$ āphna āphna$_{i,*j}$ kāpī [N]
teacher-ERG student-p-DAT REFL notebook:NOM
pharkāi-di-yo.
return-give-PT3sM
'The teacher returned the students their notebooks.'

Moreover, native speakers who reject O-bound reflexives, appear to accept them in experience clauses with a fronted stimulus, i.e., the O-argument (Mohanan and Mohanan, 1994: 175):[16]

(62) Nīnā$_i$ Anū-ko$_j$ apnī$_{i,j}$ bastī mẽ dikh-ī. [H]
N.(F):NOM A.-DAT REFLsF neighborhood in see-PTsF
'Anu saw Nina in her own neighbordhood.'

If the antecedent condition relied simply on a pivot notion based on the Thematic Hierarchy, i.e., on 'subject' or 'S/A', the possibility of O-binding in (62) would be unexplained. Apparently, reflexive binding is here sensitive, among other things, to a notion of linear precedence or phrase-structural configuration that is underdetermined by argument structure (see Mahajan, 1993 and Mohanan and Mohanan, 1994 for discussion of this in different theoretical frameworks) or, perhaps, to notions of sentential information structure (as developed in Van Valin and LaPolla, 1997). This suggests that even for those speakers who reject examples like (59) and (60), the constraints on reflexivization cannot be reduced to a hierarchy-driven pivot notion, but need to incorporate notions reflecting the structural position of NPs in the clause. Such properties of NPs, in turn, can be seen as functionally parallel to case, i.e., to the one NP-property that we argue to be crucial for Indo-Aryan GRs (see Bickel, 1999, for further exploration of this).

Other Indo-Aryan languages seem to freely tolerate O-bound reflexives. Pandharipande (1990), for example, discusses the following examples from Marathi:[17]

(63) a. mī$_i$ tyālā$_j$ āplyā$_{i,j}$ gharī pāṭhav-to. [Marathi]
1sNOM 3sM:DAT REFL house:OBL send-NPTsM
'I send him to my/his house.'

[16] Note, however, that this construction is not possible in all dialects of Hindi.

[17] Rosen and Wali (1989: 11f.) have examples contradicting this, but the verbs involved (*di-* 'give', *sāngit-* 'tell about someone', *ne-* 'take to someone's house'), are unlikely to accommodate object-bound reflexives on purely pragmatic reasons alone: unless one adds a notion of 'back' to 'give', object-binding is hard to get in *A gave B REFL's book*. Similarly, *telling about oneself* is common, but *telling B about B* is pragmatically highly marked. Finally, *taking someone to his or her own house* is more readily understood as involving one's own rather than someone else's home.

b. malā$_i$ to$_j$ svatahā$_{*i,j}$-cyā gharā-t dis-lā.
1sDAT 3sM:NOM REFL-GENsOBL house-LOC see-PT3sM
'I saw him in his (*not:* my) house.'

Note that one of the two reflexives of this language, *svataḥ*, can only be bound by nominative arguments (63b), whatever their argument role.

Given these data, it does not come as a surprise that in some other Indo-Aryan languages reflexives can even appear in subject position (see Dixon, 1994: 138 and Lazard, 1998: 86 for typological parallels). This is notably the case in Nepali (64a), first explored in Yadava (1992). Mādhav Pokharel (in personal communication) suggested the example in (64b), which is even more striking:

(64) a. āphai-le Rām-lāī barbād gar-yo. [N]
self:EMPH-ERG R.-DAT spoiling do-PT3sM
'Ram got himself spoiled.' (lit. '*Himself spoiled Ram.')
b. āphu-le āphu-lāī cin-na sak-ena.
REFL-ERG REFL-DAT know-INF be.able-3sNEG.PT
'One could not know oneself.'

Against this background, it is not surprising either that some dialects of Hindi marginally and some even completely, tolerate examples like the following, discussed by Mahajan (1990: 33):

(65) (?)Mohan-ko$_i$ apne$_i$ baccõ-ne mār-ā. [H]
M.-DAT REFL child:OBLpM-ERG beat-PTsM
'His own children beat Mohan.'

Clearly, the grammar of Hindi reflexive binding is not based on a notion of 'subject' or 'S/A' that exclusively relies on the Thematic Hierarchy.

6. Conclusions

The Indo-Aryan languages we looked at in this article are all sensitive to GRs that are defined by both case features and argument roles. Table 2 summarizes the findings (where we assume that the notion 'ergative' applies vacuously in Maithili). Interestingly, in spite of their differences in case and agreement typology, all three languages manifest the same basic GR defined as 'nominative or ergative S/A'. Hindi shows a split between a majority of constructions involving the same GR as the other languages and two constructions – verb agreement and converbial gapping – involving GRs that are defined in a slightly different way. However, even in this case, the GRs are sensitive to both case and argument roles. In none of the languages we looked at did we find robust patterns of a GR that would be definable as 'S/A pivot' or 'subject' without any sensitivity to case-features. Candidates for such patterns that have been suggested in the literature (conjunction reduction, converb con-

trol, and reflexives), turned out to be contradicted by further data. In one case, viz. reflexives, we found variation among Hindi speakers suggesting that there may be a partial sensitivity to a case-neutral pivot notion. However, closer investigation showed that even in those varieties which seem to incorporate such a notion, reflexivization would still be sensitive to some property of an NP in its phrase-structural or information-structural environment, and this can be seen as being functionally similar to a morphological NP-property, viz. case (see Bickel, 1999). Moreover, the very fact of data variation suggests that the relevant constraints would be a fairly shallow property of one single construction – certainly not a fundamental over-all characteristic of the language. This is in stark contrast with the case-sensitive GRs, for which we found no trace of data variation whatsoever, and which indeed show their syntactic relevance even where the pragmatics of the sentence would accommodate or even invite violation of GR-restrictions. Maithili speakers invariably reject matrix-coding constructions like **Harījī lagait chaith je khuśī bhelainh* 'Hari seems to have been happy', even though the proposition makes much sense both pragmatically and semantically. Indeed, the version without matrix-coding is, as we saw in section 4.3, perfectly grammatical.

Table 2
Overview of GRs in three Indo-Aryan languages

	Hindi	Maithili	Nepali
Nominative or ergative S/A	+	+	+
Highest nominative	+ (verb agreement)	–	–
Non-genitive S/A	+ (in converbs)	–	–

Thus, the languages we looked at in this paper, and possible Indo-Aryan languages in general, do show strong and clear evidence for GRs. However, the GRs we found are defined in a different way from what we are used to expect in most current theoretical frameworks. Case is a crucial ingredient of GR-definitions in these languages. Therefore, the linking from semantics to syntax cannot be universally reduced, as is often done, to information contained in the lexical predicate. Linking is instead sensitive to clause-level information contained in case frames (cf. Croft, 1993, 1998; Goldberg, 1995; Levin and Rappaport-Hovav, 1996; Bickel, 1999).

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