

Ergativity in Indo-Aryan*

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Summary

This article provides an introduction to case and agreement patterns that are present in Old, Middle and New Indo-Aryan languages, building on the rationale of Butt and Deo (2017) that ergative case marking and ergative (object) agreement in Indo-Aryan is historically tied to having originated from the past perfective morphological marker *ta*, and can only be fully understood from a perspective that factors in this development. Particular attention is given to the waxing and waning of ergative properties in Late Middle Indo Aryan and New Indo Aryan, which gives rise to recurring dissociation of case and agreement; specifically, object agreement in the absence of ergative case marking is attested in Kutchi Gujarati and Marwari, while ergative case marking without object agreement is present in Nepali. With regards to case, this article reviews recent insights on how ‘ergative/accusative’ may be regularly semantically/pragmatically conditioned in Indo-Aryan (so-called *Differential Case Marking*). Pertaining to agreement, the article investigates a central theoretical question: whether ‘ergative’ object agreement should be analysed uniformly with subject agreement, or alternatively, as a type of participle agreement – drawing on synchronic parallels between Indo-Aryan and Romance.

Keywords *Ergativity in Indo-Aryan, historical ergative, differential case marking, ergative agreement, Indo-Aryan and Romance participle agreement*

1. Introducing case and agreement in Indo-Aryan

New Indo-Aryan (NIA) languages like Hindi-Urdu and Standard Gujarati are well known to instantiate so-called *split-ergativity*, a phenomenon where ergative case marking and ‘ergative’ object agreement arise in certain tense/aspect combinations.¹ The core pattern is illustrated by (1). In (1a), an imperfective habitual sentence, the transitive subject *šilaa* lacks a case marker and triggers agreement (for feminine singular) on the main verb *lakh-* ‘write’. By contrast, in the perfective simple past, (1b), the subject carries the ergative marker *-e*, and verbal agreement on *lakh-* ‘write’ targets the direct object, *kaagaL* ‘letter’.

(1) *Standard Gujarati (Mistry 2004:3-4)*²

- | | | | | |
|----|----------------------------------|---------------|--------------|-------------------------------------|
| a. | šilaa | kaagaL | lakh-t-i | <i>past imperfective (habitual)</i> |
| | Sheela(F) | letter(M) | write-IPFV-F | |
| | ‘Sheela used to write a letter.’ | | | |
| b. | šilaa-e | kaagaL | lakh-y-o | <i>past perfective</i> |
| | Sheela(F)-ERG | letter(M) | write-PFV-M | |
| | ‘Sheela wrote a letter.’ | | | |


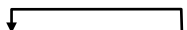
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¹ While tense/aspect-conditioned split ergativity is the most central for Indo-Aryan languages, many of them exhibit syncretism in their pronominal paradigms; e.g. Standard Marathi only exhibits ergative case on 3rd person pronouns and not on 1st or 2nd person pronouns (see Grierson 1969).

² Examples from the literature largely maintain the original transliteration, e.g. capital ‘L’ for the Standard Gujarati retroflex [l] in Mistry (2004).

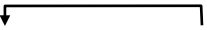
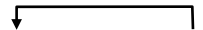
Examples such as (1a) are generally subsumed under the notion of *accusative alignment*, referring to phenomena (such as structural case marking and verbal agreement) that treat transitive subjects (written as *A*) like intransitive subjects (*S*), while treating transitive objects (*O*) differently (e.g., Dixon 1994), schematized in (2).

(2) *Standard Gujarati non-perfective pattern (agreement with S/A)*

- a.  **šilaa** kaagaL lakh-t-i *transitive / past habitual*
 Sheela(F) letter(M) write-IPFV-F (Mistry 2004:3-4, adapted)
A O V
 ‘Sheela used to write a letter.’
- b.  **ram** rəm-t-o hə-t-o *intransitive / past progressive*
 Ram play-IPFV-M AUX-PROG-M (based on Suthar 2006:36)
S V
 ‘Ram was playing.’

By contrast, (1b), can be treated as an instance of *ergative alignment*, which treats transitive objects (*O*) like intransitive subjects (*S*), while treating transitive subjects (*A*) differently. This is schematically given in (3).

(3) *Standard Gujarati perfective pattern (agreement with S/O)*

- a.  **šilaa-e** kaagaL lakh-y-o *transitive / simple past*
 Sheela(F)-ERG letter(M) write-PFV-M (Mistry 2004:3-4, adapted)
 A **O** V
 ‘Sheela wrote a letter.’
- b.  **ram** rəm-y-o *intransitive / simple past*
 Ram play-pfv-m (based on Suthar 2006:36)
S V
 ‘Ram played.’

The trigger for ergative case marking (and for the possibility of object agreement) in Indo-Aryan languages is so-called “perfective” morphology, which is most aptly defined diachronically in line with Butt & Deo (2017), as given in (4). This definition remains neutral as to whether Indo-Aryan “perfective morphology” is semantically perfective or perfect (see Condoravdi & Deo 2008).

(4) *perfective morphology*

In New Indo-Aryan languages, “perfective” morphology is the morphology that historically originates from the adjectival *-ta* participle in Old Indo-Aryan.

Of course, applying this definition synchronically comes with some practical challenges, since the New Indo-Aryan instantiations of the *-ta* morphology of Old Indo-Aryan (OIA) are varied, including *-y-* (as in Kutchi Gujarati *kar-y-o* ‘did-PERF-M.SG’) and *-dh-* (as in Kutchi Gujarati *di-dh-o* ‘give-PERF-M.SG’). This is of course

easily remedied for languages whose history is substantially documented such as Bangla (see Chatterji 1926); by contrast, it is perhaps significantly more challenging to apply such a diachronic criterion to lesser documented Indo-Aryan languages and dialects. A more operational synchronic approach holds that descendants of the *-ta* morphology are typically found in tense/aspect combinations such as the simple past, as well as the present perfect, past perfect, and future perfect. Naturally, some of these tense/aspect combinations in a given language may have a different origin; thus this is at best a necessary condition for unearthing the relevant patterns.

2. Case-agreement interactions

Past research on Indo-Aryan has given rise to the insight that case and agreement may have to be dissociated in Indo-Aryan languages even though they often co-occur (see Butt 2017, Butt & Deo 2017). This is most clearly instantiated by Nepali, where subject case marking exhibits the same aspectual split that are present in Standard Gujarati as illustrated by (1)-(3), but verbal agreement uniformly targets the subject, as shown in (5).

(5) *Nepali*

- a. **ma** **bas-en**
 I.NOM sit-PAST.1.SG
 ‘I sat.’
- b. **mai-le** mero **lugā** **dho-en**
 I-ERG my clothes.NOM wash-PAST.1.SG
 ‘I washed my clothes.’

(Bhatt 2007:15)

By contrast, Hindi-Urdu has generally been assumed to exhibit a closer connection between case and agreement in the sense that agreement systematically tracks the overt realization of subject case (ergative) and object case (optional accusative / differential object marking). In South Asian languages, optional accusative (differential object marking) has a semantic/pragmatic function; its realization is conditioned by factors such as animacy, specificity and definiteness of the direct object (see de Hoop 2009 and Malchukov & de Swart 2009 for discussion).

The central pattern is illustrated by (6). If both subject and object are unmarked (in a non-perfective aspect), subject agreement arises, (6a); if the subject is case-marked (in the perfective) and the object unmarked, object agreement arises, (6b). Finally, if both subject and object are case-marked, only default agreement (masculine singular) is possible, (6c). In line with Mahajan (2017) (and references therein), the differential object marker *-ko* is glossed DOM rather than ACC, as it exhibits the semantic properties of differential object marking, yet it does not follow the distribution of structural accusative case, for example it occurs in the ‘ergative-absolutive’ configuration in Indo-Aryan languages.

(6) *Hindi-Urdu*

- a. **rahul** **kitaab** **parh-taa** **thaa**
 Rahul.M.SG book.F.SG read-HAB.M.SG be.PAST.M.SG
 ‘Rahul used to read {a/the} book.’
- b. rahul=ne **kitaab** **parh-ii** **thii**
 Rahul.M.SG=ERG book.F.SG read-PFV.F.SG be.PAST.F.SG
 ‘Rahul had read {a/the} book.’

- c. rahul=ne kitaab=ko paṛh-aa thaa
 Rahul.M.SG=ERG book.F.SG=DOM read-PFV.M.SG(DEF) be.PAST.M.SG(DEF)
 ‘Rahul had read the book.’
 (Bhatt 2005:760-761, stylistically adapted)

In light of the range of different alignment patterns found throughout the Indo-Aryan languages, Butt & Deo (2017) conjecture that Indo-Aryan ergativity cannot be understood from an exclusively synchronic perspective. Section 3 is a brief review of their diachronic discussion.

3. The history of ergativity in Indo-Aryan

Butt & Deo (2017) consider two possible origins of ergativity in Indo-Aryan that have been proposed in the literature, an origin in a passive construction and an origin in a possessive construction. This article focuses on the former, as given in (7); for recent approaches to syntactic and semantic reanalysis, see Eckardt (2006), Roberts (2007) and Deo (2015). The core idea is that the same surface form, in (7a) and (7b), was, at some diachronic stage of the language, ambiguous between two different structures (as indicated in the glosses). In the course of diachronic development, the original structure (7a) was given up in favor of the reanalyzed structure (7b), as schematized in (8). The reanalysis from (7a) to (7b) involves an uncontroversial reanalysis of the OIA *-ta* participle (here illustrated by *hataḥ* ‘killed’) into a (presumably finite) active verb. Such reanalysis is well-attested in the Indo-European languages, including the Romance languages and the Slavic languages (Dombrowski 2006). (7a) and (7b) also depict a more controversial reanalysis of instrumental case as ergative case.

(7) *constructed illustration to illustrate the passive-to-ergative reanalysis*

a. *prior to syntactic reanalysis*

ahi-r indr-eṇa ha-ta-ḥ *Sanskrit*
 serpent-NOM.M.SG Indra-INST.SG kill-PTCPL-NOM.M.SG
 ‘The serpent has been killed by Indra.’
 (*lit.* ‘The serpent is one killed by Indra.’)

b. *after syntactic reanalysis*

ahi-r indr-eṇa ha-taḥ
 serpent-NOM.M.SG Indra-ERG.SG kill-PERF.M.SG
 ‘Indra has killed the serpent.’

(Butt & Deo 2017:532, modeled after Garrett 1990:263)

(8) *schema of the passive-to-ergative reanalysis*

- a. [Subject the serpent] (was) (Adjunct by Indra) [Predicative a.killed.one]
 b. > [Object the serpent] [Subject Indra] [Verb killed]

Butt & Deo (2017) show that a participle-to-active-verb reanalysis must have already been completed in Epic Sanskrit (around 200 BCE), using examples like (9), where a resultative analysis in line with (7a) is implausible. Here, the subject, *mayā* ‘I’ carries instrumental/ergative marking, and the *-ta* participle *visṛṣṭo* ‘released’ appears to function as a finite main verb.

(9) *Epic Sanskrit (approx. 200 BCE)*

śabda-m ālakṣ-ya mayā ... viṣṣ-ṭo nārāca-ḥ
sound-M.ACC aim-GER I.INST release-PTCPL.NOM.M.SG arrow-NOM.M.SG
'Aiming at the sound I released an arrow.'

(Rāmāyaṇa 2.58.15, originally from Bynon 2005, cited from Butt & Deo 2017:532)

While assuming the participle-to-finite-verb analysis, Butt & Deo (2017) challenge the idea that ergative case marking in New Indo-Aryan is derived from the Old Indo-Aryan instrumental, drawing on early arguments from Beames (1872-79). Beames observes that the OIA case system mostly disappeared in the history of the Indo-Aryan languages, so that Middle Indo-Aryan (MIA) had ergative alignment without systematic ergative case marking (see Peterson 1998). This indicates an early dissociation of 'ergative' object agreement and ergative case marking. In order to see this development, compare the expected examples in (10) and (11) to the more revealing examples in (12) and (13). Here in (10), from the Mahāraṣṭrī text *Vasudevahimḍī*, the agent/experiencer is marked with instrumental case, giving rise to object agreement with the theme/stimulus. Butt & Deo (2017) take this to illustrate the MIA ergative system (schematically given in (11)).

(10) *Archaic MIA (approx. 500 CE)*

[t-eṇa palāyamāṇ-eṇa] [purāṇakuv-o taṇadabbhaparichinn-o]
that-INST.SG running-INST.SG old.well-NOM.M.SG grass.covered-NOM.M.SG
diṭ-ṭho
notice-PERF.M.SG

'That running one noticed an old well covered with grass.'

(VH.KH. 8.6, cited from Butt & Deo 2017:538)

(11) [that running one]_{INST} [a grass covered old well]_{NOM} noticed


agreement

To illustrate the impoverishment of the MIA case system (in contrast to the OIA case system), Butt & Deo present examples from the Paumacariu (a Jaina rendition of the *Rāmāyana*), as illustrated in (12) (schematically in (13)). They observe that distinctions such as nominative/accusative and genitive/dative were lost, while the nominative and the ('ergative') instrumental case became partially syncretic (namely in the first and second plural form), written as SYNCR in (12) and (13). They conclude that agreement became the main realization of ergative alignment in MIA, regardless of morphological case marking.

(12) *Late MIA (approx. 8th century CE)*

ki-u amhē ko avarāh-o
do-PERF.M.SG we.1.PL.SYNCR what crime-NOM.M.SG
'What crime have we done?'

(PC 1.2.13.9, cited from Butt & Deo 2017:540)

(13) [we]_{SYNCR(NOM/INST)} [what crime]_{NOM} done


agreement

In Early Hindi, the ‘ergative’ instrumental marking seems to have undergone complete attrition, becoming syncretic with the nominative in most contexts, as illustrated in (14). Crucially, (14a-b) show that ‘ergative’ object agreement was preserved in the absence of ergative case marking, indicating the above-mentioned independence of case and agreement in Indo-Aryan.

(14) *Early Hindi (15th century CE)*

- a. jo **chādar** sura-nara-muni **oḍh-i**
 which sheet.NOM.F.SG gods-men-sages(Ø_{ERG}) wrap-PERF.F.SG
 ‘Gods, men, and sage, all wore this sheet.’
- b. dās kabir jatan=se **oḍh-i**
 servant Kabir(Ø_{ERG}) care=with wrap-PERF.F.SG
 ‘(Your) servant Kabir wore it with great care.’
 (opus of Kabir, a Bakhti poet, cited from Butt & Deo 2017:541, slightly adapted)

Butt & Deo show that, in a similar historical period, Old Bengali has a pattern comparable to Early Hindi, as in (15), while still making a phonological distinction between the non-nasalized nominative (cf. *kānhē*) and the nasalized ergative (cf. *kānhē̃*).

(15) *Old Bengali (constructed minimal pair)*

- a. **kānhē** pot^hī paḍ^h-ai
 Kānha.M.SG.NOM book.F.SG.NOM read-PRES.M.SG
 ‘Kānha reads the book.’
- b. kānhē̃ **pot^hī** paḍ^h-iī
 Kānha.M.SG.ERG book.F.SG.NOM read-PERF.F.SG
 ‘Kānha read the book.’

(Chatterji 1926:742-743, cited from Butt & Deo 2017:542, slightly adapted)

Moreover, Phillips (2013) documents examples of optional ergative case marking from 16th century Old Rajasthani, which he takes to be symptomatic for the disappearance of ergative case (or *ergative case attrition*). While ergative case marking clearly cannot be considered systematic in (16a-b), these examples exhibit ‘ergative’ object agreement regardless of whether ergative case is overt or not. Here, (16a) shows object agreement without ergative case marking on the subject (*komar* ‘prince’). One may suspect that ergative case marking is present in (16a) and not visible for (morpho-)phonological reasons, but (16b) shows that this is not the case, as the example contains a case marked variant of the same subject DP (*komar-i* ‘prince’).

(16) *16th century Old Rajasthani*

- a. komar tātkaḷ te **p^hul** **sung^harya**
 prince.M.SG immediately these flowers.M.PL smell.CAUS.PTPPL.M.PL
 ‘The prince immediately caused [her] to smell these flowers.’
- b. komar-i kəhiu
 prince.M.SG-ERG say.PTPPL.N
 ‘The prince said.’

(Phillips 2013:208, quoting Khokhlova 2001:161, slightly adapted)

At present, Butt & Deo propose that the New Indo-Aryan (NIA) languages instantiate at least three different systems that have emerged from these MIA stages. Hindi and Nepali have acquired a new ergative case marker that was innovated after the MIA period illustrated in (14). The ‘strengthened’ system of Modern Hindi-Urdu is illustrated by the example in (17b). Butt & Ahmed (2011) argue that the recently innovated ergative clitic *-ne* of Hindi-Urdu was loaned from neighboring languages, originating in the Old Rajasthani postposition *kanhaiN* ‘aside, near’.

(17) *Modern Hindi-Urdu*

- a. **rahul** **kitaab** **paṛh-taa** **thaa**
 Rahul.M.SG book.F.SG read-HAB.M.SG be.PAST.M.SG
 ‘Rahul used to read (a/the) book.’
- b. **rahul=ne** **kitaab** **paṛh-ii** **thii**
 Rahul.M.SG=ERG book.F.SG read-PFV.F.SG be.PAST.F.SG
 ‘Rahul had read the book.’
 (Bhatt 2005:759, slightly adapted)

They show that *-ne* in Haryani and Kherwada Wagdi has a dative/accusative use as well as an ergative use (see Butt & Ahmed 2011:562), shown in (18) and (19).³ By contrast, in Gujarati, (20), and Marwari, (21), *-ne* has a dative/accusative use only (see also Tessitori 1913, 1914-16), while lacking an ergative use.

(18) *Haryani*

- man=ne** **sahib=ne** **mar-a**
 PRON.1.SG=ACC/DAT Sahib.M.SG=ERG hit-PERF.M.SG
 ‘The Sahib hit me.’
 (Shirani 1987, cited from Butt & Deo 2017:548)

(19) *Kherwadi Wagdi*

- va=ṇe** **ve-ne** **dek^h-yu**
 PRON.3.SG=ERG PRON.3.SG=ACC see-PERF.N.SG
 ‘He/She saw him/her.’
 (Phillips 2013:204)

(20) *Standard Gujarati*

- reena=e** **vaagh=ne** **jo-yo**
 Reena=ERG tiger. M.SG=ACC see- PERF.M.SG
 ‘Reena saw the tiger’
 (adapted from Mistry 1997:435)

(21) *Marwari*

- mhe** **sita=ne** **dekhi** **hi**
 PRON.2.PL Sita=ACC see.F.SG was.F.SG
 ‘We had seen Sita’
 (Magier 1983:249)

³ Butt & Deo (2017) emphasize that this is not a case of syncretism, but rather an instance where the functions of the clitic *-ne* have been extended from one morphosyntactic category to another.

In sharp contrast to (17)-(19), Bengali and Oriya have lost ergative alignment altogether, in a clear further development of (14)-(15). This loss of ergativity is illustrated for Modern Bengali in

(22). Note, in this respect, that ergativity has also been lost in ‘non-ergative’ eastern Hindi dialects, whereas it is robustly preserved, for instance, in Delhi Hindi (Mahajan 2012:207).

(22) *Modern Bengali*

a. **āmī** boi dek^h-**chi**
 I.SG.NOM book.F.SG.NOM see-PROG.1.SG
 ‘I am looking at a book.’

b. **āmī** boi dek^h-**lām**
 I.SG.NOM book.F.SG.NOM see-PERF.1.SG
 ‘I saw a book.’

(Butt & Deo 2017:543)

Finally, Marathi and Gujarati have retained a version of the original system from OIA and Archaic MIA. To be specific, the Standard Gujarati ergative marker *-e* in (1b) is generally traced back to the OIA instrumental, in sharp contrast to the innovated ergative marker *-ne* in Hindi. At the same time, and somewhat unsurprisingly, the pattern that arose in Early Hindi and Old Bengali (‘ergative’ object agreement in the absence of ergative case marking) can still be attested in some present day Indo-Aryan languages and dialects. Marathi has extended nominative/ergative syncretism to all instances of the 1st and 2nd person, while preserving ergative case marking in the 3rd person. Yet, the agreement split (between subject agreement in the non-perfective and object agreement in the perfective) is robust, as illustrated by (23a-b).

(23) *(present day) Marathi*

a. **mī** ek chimṇī bagha-**toy**
 I.SG.NOM one sparrow.F.SG.NOM see-PROG.PRES.M.SG
 ‘I am watching a sparrow.’

b. mī ek **chimṇī** baghit-**lī**
 I.SG.NOM one sparrow.F.SG.NOM see-PERF.F.SG
 ‘I saw a sparrow.’

(Butt & Deo 2017:544)

Similarly, Kutchi Gujarati, (24), and Marwari, (25)-(27), exhibit ergative alignment in the form of object agreement (in (24b), (25b) and (27)) while lacking ergative case marking altogether.

(24) *(present day) Kutchi Gujarati*

a. **reena** kutro(-ne) mar-th-**i**
 Reena.F dog.M(-DOM) hit-IPFV-F
 ‘Reena used to hit a/the dog.’

b. reena **kutro**(-ne) mar-y-**o**
 Reena.F dog.M(-DOM) hit-PFV-M
 ‘Reena hit a/the dog.’

(25) (present day) Marwari

a. **mhaĩ** [...] aũbho h-o *past progressive (non-perfective)*
 I.NOM standing be-PROG.M.SG

‘I was standing [in front of the table of the big boss].’

b. mhaĩ **šaraᅇ-naĩ** dekh-ĩ *simple past (perfective)*

I.NOM Sharan.F.SG-DOM see-PFV.F.SG

‘I saw Sharan.’ (in a context where the subject is male)

(Verbeke 2010:42,45, slightly adapted)

(26) (present day) Marwari intransitive perfective

a. **rām** aᅇhe kāle **ā-iyō**
 Ram here yesterday come-PFV.M

‘Ram came here yesterday.’

b. **sītā** aᅇhe kāle **ā-ī**
 Sita here yesterday come-PFV.F

‘Sita came here yesterday.’

(Magier 1983b:248)

(27) (present day) Marwari transitive perfective

a. rām **lāpsī** jīml-ī
 Ram wheat-gruel.F eat-PFV.F

‘Ram ate wheat gruel.’

b. sītā **ek sogro** jīml-īyō
 Sita one millet.bread.M eat-PFV.M

‘Sita ate one (piece of) millet-bread.’

(Magier 1983b:248)

On a related note, Marwari and Kutchi Gujarati can be shown to have innovated nested agreement patterns, which are illustrated in (28) and (29).

(28) Kutchi Gujarati future perfect

a. john mane jo-i ha-se
 John me.DOM see-PFV.F.SG AUX-FUT.3.SG

↑ ↑—————|
 ‘John will have seen me.’ (speaker is female)

b. hu chokra-ne jo-y-a ha-is
 I boys-DOM see-PFV-PL AUX-FUT.1SG

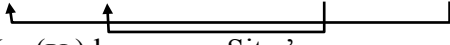
↑ ↑—————|
 ‘I will have seen the boys.’ (speaker is female)

(Grosz & Patel-Grosz 2014:222)

(29) Marwari present perfect


a. mhāĩ sītā-ne dekhī hū.
 I Sita-DOM saw.F.SG am.1SG

↑ ↑—————|
 ‘I have seen Sita.’

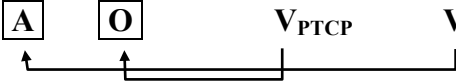
- b. āp sītā-ne dekhī ho.
 you(PL) Sita-DOM saw.F.SG are.2PL

 ‘You(PL) have seen Sita.’
 (Magier 1983a:322-323, Magier 1983b:250)

It is difficult to see in which sense (28) and (29) should be classified as *ergative alignment*, as they instantiate a system where, within the same sentence, agreement on the auxiliary exhibits ‘accusative’ (S/A) alignment, whereas agreement the participle exhibits ‘ergative’ (S/O) alignment. This seems to further bolster the idea that, in principle, ergative case marking may be dissociated from ‘ergative’ object agreement in Indo-Aryan languages⁴. If verbal agreement were to track morphological case marking on the core arguments (subject and direct object), cases where one agreeing element in the verbal complex targets the subject while the other agreeing element targets the object should not occur. I return to this issue in section 5.

- (30) *Kutchi Gujarati future perfect (intransitive)*

hu av-i ha-is
 I come-PFV.F.SG AUX-FUT.1.SG

 ‘I will have arrived.’ (*speaker is female*)

- (31) *Kutchi Gujarati future perfect (transitive)*

hu chokra-ne jo-y-a ha-is
 I boys-DOM see-PFV-PL AUX-FUT.1SG

 ‘I will have seen the boys.’ (*speaker is female*)
 (Grosz & Patel-Grosz 2014:222)

4. Ergative and accusative case vs. Differential Case Marking

This section illustrates the mounting evidence that ‘ergative’ and ‘accusative’ case marking in Indo-Aryan are partly semantically/pragmatically conditioned, and not rigidly derived from structural mechanisms such as dependent case assignment (e.g., Marantz 1991). As shown in section 4.1 and 4.2, Indo-Aryan languages (possibly in a *sprachbund* with Dravidian and Tibeto-Burman languages) exhibit systematic patterns of Differential Case Marking (or rather, in many cases, Optional Case Marking, see McGregor 2010). This article adopts a broad definition of Differential Case Marking along the lines of Aissen (2003), Witzlack-Makarevich & Seržant (2018): a minimal pair of two sentences that differ only in the case marking on an argument DP, which has a semantic effect. Before reviewing the range of patterns, it is worth emphasizing that Differential Case Marking is not independent from

⁴ See Baker (2015), for rich and detailed discussion on the disassociation between case and agreement systems more generally. Further arguments specifically for South Asian languages have been made by Menon, Simpson and Choudhury (2013)

particular structural configurations. Differential Subject Marking (DSM) (in particular, Optional Ergative Marking, OEM) is typically restricted to transitive subjects, which presumably occupy a structural subject position (such as SpecvP),⁵ whereas Differential Object Marking (DOM) (or Optional Accusative Marking, OAM) tends to be restricted to transitive objects, which correspondingly originate in a structural object position (such as the complement position of the VP). This means that a syntactic mechanism of dependent case assignment in the spirit of Marantz (1991) may well be the necessary condition for DSM and DOM (at least in some languages), while it is not always a sufficient condition.

4.1 *Differential Subject Marking / DSM (Subsuming ‘Optional Ergative’)*

Recall the discussion of the attrition of ergative case marking from OIA to MIA. The 3rd century CE Niya dialect which has been documented in the Niya documents exemplifies optionality in the realization of ergative/instrumental case marking at that historical stage⁶. In some present day NIA languages, such optionality can still be widely observed, as shown in (32). It has since been well established that languages that allow for a free choice between nominative and ergative case on subjects, the choice ends up being correlated with semantic factors, such as animacy/agentivity, thus giving rise to Differential Subject Marking (for example Klaiman 1987, Mithun 1991). Similarly, McGregor (2010) proposes that the overt realization of an optional ergative case marker tends to mark a ‘prominent’ subject/Agent, though he leaves *prominence* as an underspecified notion. Quite generally, our understanding of the semantic/pragmatic conditioning factors for optional ergative case marking in Indo-Aryan languages, as instantiated in (32), is still limited⁷.

(32) (*present day*) *Kherwada Wagdi*

- a. ram **keri** kap-i
 Ram.M mango.F cut-PFV.F
 ‘Ram cut the mango.’
- b. ram-ε [keri kap-te t^həke] **angəri** kapi nak-i
 Ram.M-ERG mango.F cut-PTCP be.PTCP finger.F cut throw-PFV.F
 ‘Ram cut his finger while cutting the mango.’
 (Phillips 2013:204-205, slightly adapted)

As Butt & Deo (2017) show, Differential Subject Marking in New Indo-Aryan languages such as Bengali and Hindi-Urdu is most clearly visible in modal constructions, where it indicates a difference in modality (that presumably derives from a difference in volitionality). This is illustrated by (33).

⁵ Not all of the cases that are ruled in as DSM involve transitive subjects or ergative case; for instance, (33) is an example where ergative case alternates with dative case on the subject of *ja* ‘go’ combined with a modal use of *he* ‘is’.

⁶ See Jamison (2000) and Butt & Deo (2017) for further discussion.

⁷ An anonymous reviewer points out that ergative case in (32b) may be triggered by the light verb *nak* ‘throw’, which is absent in (32a). While this may well be the case, the important part of the example is the absence of ergative marking in (32a), since it fulfills the criteria observed in ergative marking in split ergative Indo-Aryan languages: perfective aspect and uncontroversially transitive verb, namely *kap* ‘cut’.

(33) *Hindi-Urdu (varieties spoken in Delhi and in Pakistan)*

a. *ergative subject*

nadya=ne dak^hane ja-na he.
Nadya.F.SG=ERG post.office.M.SG.OBL go-INF.M.SG be.PRES.3.SG
'Nadya wants to go to the post office.'

b. *dative subject*

nadya=ko dak^hane ja-na he.
Nadya.F.SG=DAT post.office.M.SG.OBL go-INF.M.SG be.PRES.3.SG
'Nadya has to go to the post office.'

(Butt & Deo 2017:549)

Since ergative case is typically reserved for transitive subjects, one could speculate that the case alternation in (33) can be derived from two different underlying structures (a transitive structure in (33a) and an unaccusative structure with an experiencer subject in (33b)). However this is not trivial, since both sentences contain an unaccusative verb *ja* 'go' in combination with *he* 'is' and literally translate to 'Nadia is to go to the post office', therefore it not self-evident what the source of transitivity in (33a) would be. Moreover, Davison (1999:185-186) lists a number of transitive verbs in Hindi-Urdu (including *bol* 'speak', *la* 'bring', and *lar* 'fight') that never exhibit ergative case on the subject, and proceeds by discussing another class of verbs that exhibits a nominative/ergative alternation. This class is illustrated by *samaj^h* 'understand', *b^hul* 'forget', *jan* 'give birth (to)', *phāḍ* 'leap over', *bak* 'to say nonsense', *har* 'lose, be defeated', and *pahcan* 'recognize'; an illustration is given in (34).

(34) *Hindi-Urdu*

a. *nominative subject*

vo yah baat s̄mjh-aa
he.M.NOM this matter.F understand-PFV.M
'He understood this matter.'

b. *ergative subject*

us=ne **yah baat** s̄mjh-ii
he.M=ERG this matter.F understand-PFV.F
'He understood this matter.'

(Mahajan 2012:207)

Another instance of a systematic nominative/ergative alternation in Hindi-Urdu concerns intransitive predicates that loosely qualify as 'unergative' (Butt 2017). For this class, Davison (1999:186-187) lists verbs such as *b^hōk* 'bark', *j^hāk* 'peep, look into/through', *k^hās* 'cough', *c^hīk* 'sneeze', *muskara* 'smile', *t^huk* 'spit', *mut* 'urinate', *hag* 'defecate', *naha* 'bathe', *ro* 'cry', *hās* 'laugh', *ga* 'sing', and *so* 'sleep'; a classical example is given in (35). As of today, it is unclear whether a systematic structural difference can be posited for (34a) vs (34b), or for (35a) vs (35b). At the very least, such patterns tentatively challenge a view in which Hindi-Urdu has a systematic ergative case pattern in the perfective construction.

(35) *Hindi-Urdu*

a. *nominative subject*

kutte b^hōk-e
dogs.M.PL.NOM bark-PFV.M.PL
'The dogs barked.'

b. *ergative subject*

kuttō=ne b^hōk-aa
dogs.M.PL=ERG bark-PFV.M.SG(DEF)
'The dogs barked.'

(Mahajan 1990:74, adapted)

Based on such systematic case alternations, which occur throughout the Indo-Aryan languages, Butt (2017) proposes a lexical semantic approach to structural case marking in Indo-Aryan, which treats Indo-Aryan languages as accusative languages with Differential Case Marking. Moreover, in line with McGregor (2010), Butt links optional ergative marking (as a type of DSM) to semantic properties such as volitionality and agentivity, which she takes to be most clearly illustrated by contrasts such as (36a) vs (36b).

(36) *Hindi-Urdu*

a. *nominative subject*

ram ro-ya
Ram.M.SG.NOM cry-PERF.M.SG
'Ram cried.'

b. *ergative subject*

ram=ne ro-ya
Ram.M.SG=ERG cry-PERF.M.SG
'Ram cried (on purpose).'

(Butt 2017:817, stylistically adapted)

Butt (2017) also documents parallel patterns for Nepali, as in (37). (Note that verbal agreement in Nepali always targets the subject, regardless of case marking.)

(37) *Nepali*

a. *nominative subject*

hasan nac-yo
Hassan.M.SG.NOM dance-PAST.3.SG
'Hassan danced.'

b. *ergative subject*

hasan=le nac-yo
Hassan.M.SG=ERG dance-PAST.3.SG
'Hassan danced.'

(Butt 2017:826, stylistically adapted)

In line with such a DSM approach to ergative case marking in Indo-Aryan languages, it has been argued that optional ergative case in Nepali non-perfective clauses correlates with information structure. In fact, Verbeke (2013b:607-608) takes it to be the 'traditional account' that optional ergative marking in Nepali correlates with focus/emphasis (the 'focus hypothesis'). This description fits with examples such as

(38), but Verbeke (2013b) points out that other corpus examples are not accounted for by the focus hypothesis.

(38) *Nepali*

bāhira ke-ko khalbal?

outside what-GEN noise

‘What’s the noise about outside?’

karmi-haru=le chānā hāli-rah-e-ch-an

worker-PL=ERG roof lay-PROG-PRES-3PL

‘The workmen are laying the roof.’

(Verbeke 2013b:594, originally from Clark 1963:279)

By contrast, Butt & Poudel (2007) suggest that a distinction in terms of temporary (‘stage level’) vs. characteristic (‘individual level’) properties is more adequate. It is an open question whether this, too, correlates with information structure (e.g., a possible requirement that subjects of individual level predicates, (39b), are topical, cf. Jäger 2001). These semantically-driven case alternations would be puzzling from a view that treats Indo-Aryan subject case marking as an instance of true ergative alignment, since structural/dependent case is presumably a purely syntactic phenomenon.

(39) *Nepali*

a. *nominative subject*

hasan gari c^halaun-c^ha

Hassan.M.SG.NOM car.NOM drive-NONPAST.3.SG

‘Hassan is driving a car/cars [right now].’

b. *ergative subject*

hasan=le gari c^halaun-c^ha

Hassan.M.SG=ERG car.NOM drive-NONPAST.3.SG

‘Hassan drives cars [as a job / that’s what he does].’

(Butt 2017:827, slightly adapted)

4.2 *Differential Object Marking / DOM (‘Optional Accusative’)*

Differential Object Marking (see de Hoop 2009 and Malchukov & de Swart 2009) is wide-spread in the South Asian languages, posing an additional challenge to structural/dependent case approaches to these languages. In South Asian languages, Differential Object Marking generally amounts to the presence vs. absence of a case marker (e.g., Hindi-Urdu *-ko* in (40b), Gujarati *-ne* in (41b)), i.e. it qualifies as Optional Case Marking in the sense of McGregor (2010). The presence of the optional case marker has been shown to correlate with semantic/pragmatic notions such as animacy, definiteness, specificity, and information structure. In Hindi-Urdu, human-denoting objects are always DOM-marked; by contrast, DOM with non-human-denoting objects correlates with specificity.

(40) *Modern Hindi-Urdu*

a. ram **gari** xarid-e-g-a

Ram.M.SG.NOM car.F.SG.NOM buy-3.SG-FUT-M.SG

‘Ram will buy a/the car.’

- b. ram **gari=ko** xarid-e-g-a
 Ram.M.SG.NOM car.F.SG.NOM=DOM buy-3.SG-FUT-M.SG
 ‘Ram will buy the car (a specific car).’
 (Butt & Deo 2017:545)

Mistry (1997) shows that DOM in Standard Gujarati sometimes just reflects specificity, as in (41); in other cases, he claims that this change in specificity seems to affect the interpretation of the predicate, as in (42)⁸.

(41) *Standard Gujarati*

- a. šeela pāāc **maāṇas-o** mokal-š-e
 Sheela five man-PL send-FUT-3.SG
 ‘Sheela will send five men. (any five men)’
 b. šeela pāāc **maāṇas-o-ne** mokal-š-e
 Sheela five man-PL-DOM send-FUT-3.SG
 ‘Sheela will send the five men. (five specific men)’
 (Mistry 1997:430, slightly adapted)

(42) *Standard Gujarati*

- a. principal caar **šikšak-o** nim-š-e
 the.principal four teacher-PL appoint-FUT-3.SG
 ‘The principal will appoint four teachers.’
 b. principal caar **šikšak-o-ne** nim-š-e
 the.principal four teacher-PL-DOM appoint-FUT-3.SG
 ‘The principal will select/reappoint four teachers.’
 (Mistry 1997:433-434, slightly adapted)

It is, as of yet, unclear whether a structural approach to Differential Object Marking is feasible. Baker (2013) proposes that cross-linguistically DOM may either involve (pseudo-)incorporation of an unmarked object (such as *gari* ‘car’ in (40a)) into the verb, or object shift of a marked object (such as *gari=ko* ‘car=DOM’ in (40b)) to a position outside of the VP (see also Aissen 2003 on correlations between DOM and object shift)⁹. Both approaches face a challenge in the apparent flexibility of DOM that emerges from examples such as the following. If unmarked direct objects had to incorporate into the verbal predicate, the existence of (43b-c) would be surprising, where the unmarked *xat* ‘letter’ has scrambled to a higher position. Moreover, if object shift / scrambling automatically triggered differential object marking, then we would expect to see obligatory DOM marking (i.e., *xat=ko* ‘letter=DOM’) in (43b), contrary to fact.

(43) *Modern Hindi-Urdu*

- a. naadyaa=ne hassan=ko **xat** di-yaa
 Nadya.F=ERG Hassan.M=DAT letter-M give-PERF.M.SG
 ‘Nadya gave Hassan a (particular) letter.’ (*specific/non-specific possible*)

⁸ Examples (39) and (40) are typical examples of the broader pattern of scalar mapping that arises as a result of explicit case marking and the interaction between the object and the predicate. See Verkuyl (1993), Krifka (1989, 1992), Ramchand (1997) for discussion.

⁹ See also Mohanan (1995) for examples of optional agreement in Hindi, where agreement arises as a result of the close proximity of the noun to the verb.

- b. naadyaa=ne **xat** hassan=ko di-yaa
 Nadya.F=ERG letter-M Hassan.M=DAT give-PERF.M.SG
 ‘Nadya gave Hassan a particular letter.’ (*specific only*)
- c. naadyaa=ne hassan=ko **xat** jaldii=se di-yaa
 Nadya.F=ERG Hassan.M=DAT letter-M quickness=INST give-PERF.M.SG
 ‘Nadya gave Hassan a particular letter quickly.’ (*specific only*)
 (Butt & King 1996)

Interestingly, notions of Differential Object Marking also come into play in the realization of ‘ergative’ object agreement. Patel (2008) observes that Kutchi Gujarati exhibits an alternation between full gender/number agreement (such as masculine singular, *-o*) and default agreement (neuter singular, *-u*) in perfective object agreement (though never in non-perfective subject agreement). This is illustrated in (44), where a correlation between default agreement and scrambling of the direct object can be observed in (44b). (Note that superscripted hash marks in the first line of the examples symbolize the dispreferred option, rather than true unacceptability).

(44) *Kutchi Gujarati*

- a. mary kadatch **John-ne** mar-y-[#]*-u*
 Mary possibly John-DOM hit-PERF-M.SG/[#]-N.SG
 ‘Possibly Mary hit John.’
- b. mary **John-ne** kadatch mar-y-[#]*-o*
 Mary John-DOM possibly hit-PERF-N.SG/[#]-M.SG
 ‘Possibly Mary hit John.’

(Patel 2008:13, slightly adapted)

The same variation between object agreement and default agreement seems to be possible in Surati Gujarati (as observed by Kinjal Joshi, p.c.); this is not an isolated fact about Kutchi Gujarati. (See also Suthar 2006:185-186 for a discussion of optional agreement on Standard Gujarati adverbs and irrealis markers.)

5. Ergative agreement vs. participle agreement

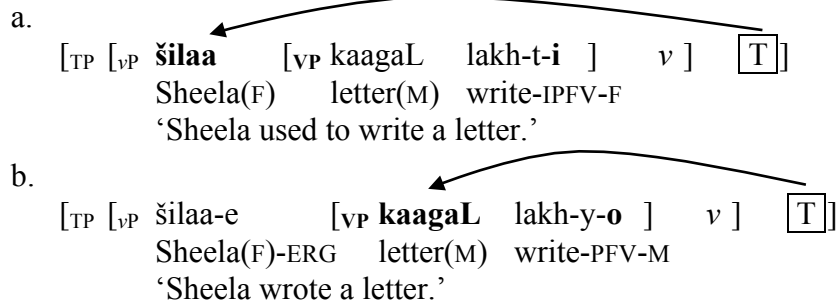
Having provided an overview of ergativity and in particular case marking in Indo-Aryan, section 5 probes one of the central theoretical questions: what is the status/nature of object agreement? On the basis of a case study on two Western Indo-Aryan languages, Kutchi Gujarati and Marwari, this section establishes a connection between Indo-Aryan and Romance. While such a parallel is not surprising from a diachronic Indo-Europeanist perspective, the connection has only recently been explored in the syntax literature cf. D’Alessandro (2011). While a central focus has been on a unified approach to subject and object agreement (see, e.g., Bhatt 2005 and Bobaljik 2008), one of the main findings of this case study is that Indo-Aryan object agreement, specifically in Kutchi Gujarati and Marwari, may be a type of participle agreement of the kind found in Romance languages such as French and Italian.

5.1 Case and agreement as two sides of the same coin

Many authors attribute subject agreement and object agreement in Indo-Aryan languages to a single mechanism (see, e.g., Bhatt 2005 and Bobaljik 2008). A slightly simplified rendering of such a view is illustrated in (45) for Mistry’s (2004:3-4)

example from Standard Gujarati. The idea would be that a single probe, say, on the *T* head, would agree with the closest accessible DP under c-command, where accessibility is determined in terms of case marking, i.e., *T* can agree with a caseless ('nominative') DP, such as *šilaa* 'Sheela' in (45a) or *kaagaL* 'letter' in (45b), whereas an ergative-marked DP such as *šilaa-e* 'Sheela-ERG' in (45b) would be unacceptable.

(45) *Standard Gujarati (single probe analysis)*

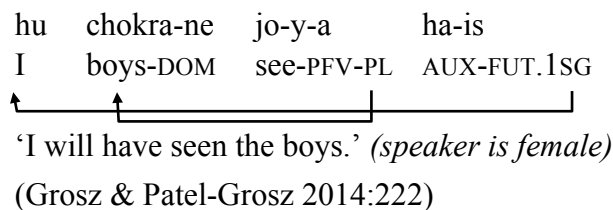


Such a system allows for some flexibility. For instance, *T* can agree with DOM-marked objects in Standard Gujarati, but not in Hindi. Similarly, *T* can agree with ergative-marked subjects in Nepali, but not in Hindi or Standard Gujarati. Grosz & Patel-Grosz (2014) argue that such a *single probe* system does not seem to be adequate for languages such as Kutchi Gujarati or Marwari; instead, they argue for a *dual probe* system, which attributes object agreement and subject agreement to two distinct functional heads in the clausal spine. Section 5.2 revisits the Kutchi Gujarati and Marwari facts, and explores a dual probe system somewhat different from the Grosz & Patel-Grosz (2014) system, which models the observed agreement patterns more in line with the phenomenon of participle agreement in Romance languages.

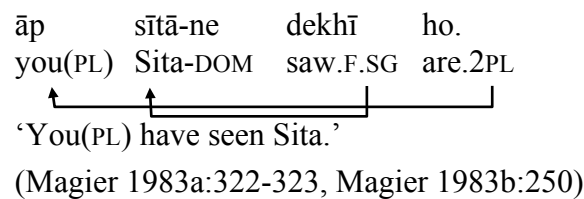
5.2 An alternative scenario: two sources of verbal agreement

A close connection between case-marking and agreement as in (45) comes apart in Kutchi Gujarati and Marwari, where nested agreement is possible. This is illustrated for Kutchi Gujarati in (46) and for Marwari in (47).

(46) *Kutchi Gujarati future perfect*



(47) *Marwari present perfect*



These nested agreement patterns set Kutchi Gujarati and Marwari apart from languages like Standard Gujarati. The ergative subject in Standard Gujarati perfective

constructions is truly inaccessible for agreement, which gives rise to default agreement (3rd person) on the present tense auxiliary, as shown in (48).

(48) *Standard Gujarati present perfect*

māī **tam-ne** mār-yā che.
 I.ERG you.PL-DOM strike-PFV.M.PL be.PRES.3(DEF)



‘I have struck you.’

(Bhatt 2005:801, from Magier 1983a:324, adapted)

Note, in this respect, that agreement in languages such as Hindi-Urdu, Gujarati, and Marwari tends to be in gender and number (e.g., *joya*, *dekhī* in (46)-(47)). This is due to the origin of present day verbal morphology in adjectival participles such as the ‘perfective’ *ta* participle (see Butt & Deo 2017, Butt 2017). As Butt (2017) points out, exceptions include future morphology, as in (46), and the non-past auxiliaries, as in (47), where person/number agreement has been preserved from Old Indo-Aryan. Cases that combine two affixes, which cumulatively express agreement in all three features (person/number + gender/number) can be analyzed as recent innovations where two verbs have fused into one. Butt & Lahiri (2013) derive the Hindi-Urdu future marker *-g-* in (49) from the light verb *ga* ‘go’. Similarly, the Kutchi Gujarati progressive *-r-* in (50) plausibly derives from a light verb *rəh* ‘stay’.¹⁰

(49) *Hindi-Urdu*

a. **mē** ro d-ū-g-a
 I.NOM cry give-1.SG-FUT-M.SG
 ‘I_[male] will cry’ (from the movie *Kabhi Khushi Kabhi Gham*)
 (Butt & Lahiri 2013:23, stylistically adapted)

b. **tum** xat lik^h-o-g-i
 you.NOM letter.M.SG write-2.SG-FUT-F.SG
 ‘You_[female] will write a letter.’
 (Butt 2017:814, stylistically adapted)

(50) *Kutchi Gujarati*

a. **hu** kam kar-u-r-i
 I.NOM work do-1.SG-PROG-F.SG
 ‘I_[female] am working.’

b. **ame** kam kar-i-r-a
 we.NOM work do-1.PL-PROG-PL
 ‘We are working.’

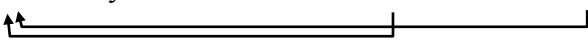
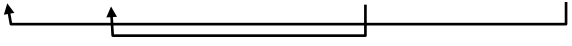
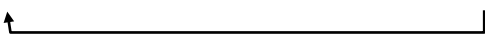
Coming back to (46) and (47), it is worth exploring an alternative to treating subject and object agreement on a par. The main predecessor of the view to be outlined in section 5.3 was pioneered, to the best of my knowledge, by Magier (1983a:321-323), who capitalizes on the observation that the present perfect in Marwari exhibits the same pattern of participle agreement present in the French *passé composé*. This

¹⁰ The Kutchi Gujarati *r*-progressive is plausibly related to the Hindi-Urdu progressive marker *rəha/rəhe/rəhī*, which historically derives from *rah* ‘stay’ (Deo 2006:176). Another plausible cognate is the Marwari progressive marker *riyo* (cf. Magier 1983a:151).

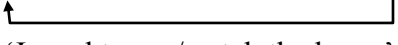
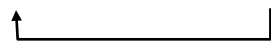
analytical option of agreement in Indo-Aryan, it is worth focusing on this option, at least for languages like Kutchi Gujarati and Marwari.

5.3 *A unified approach to Indo-Aryan and Romance participle agreement?*

To begin with, (54a-c) show that the future marker systematically agrees with the subject for person and number, i.e. the non-past auxiliary is devoid of an agreement split. The agreement split is only present at the level of the participle, as shown in (54a) vs. (54b).

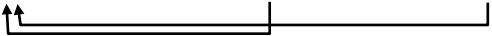

- (54) a. hu chokra-ne jo-th-i ha-is future imperfective
 I boys-DOM see-IPFV-F.SG AUX-FUT.1SG

 ‘I will see/watch the boys.’ (speaker is female)
- b. hu chokra-ne jo-y-a ha-is future perfect
 I boys-DOM see-PFV-PL AUX-FUT.1SG

 ‘I will have seen the boys.’ (speaker is female)
- c. hu Manjula-ne jo-is simple future
 I Manjula.F.SG-DOM see-FUT.1SG

 ‘I will watch Manjula.’ (speaker is female)

Note also that, while past tense configurations typically lack tense auxiliaries, the pattern in (55a-b) is properly contained in the pattern in (54a-b). This makes a uniform analysis desirable, which would assume null past tense auxiliaries (rather than treating the past participle as a finite main verb). Compare in this respect the following quote from Bhatt (2005:772) on Hindi-Urdu: “Finite T⁰ is, however, not always overtly realized. Simple past tense sentences in Hindi-Urdu do not involve an overt expression of tense.”

- (55) a. hu chokra-ne jo-th-i past habitual (imperfective)
 I boys-DOM see-IPFV-F.SG

 ‘I used to see/watch the boys.’ (speaker is female)
- b. hu chokra-ne jo-y-a past perfective
 I boys-DOM see-PFV-PL

 ‘I saw the boys.’

Descriptively, the agreement split in Kutchi Gujarati mirrors a split that Belletti (2006) documents for Italian constructions with a reflexive indirect object clitic. The pattern in (56a) (with *si* ‘to self’) mirrors the Kutchi Gujarati imperfective pattern, (54a), whereas the pattern in (56b) (with clitic *se* ‘to self’) mirrors the perfective pattern, (54b).


(56) *Standard Italian*

- a. Maria si è lavata i capelli.
Maria to.self is.3.SG washed.FEM.SG the hair.MASC.PL

'Maria has washed her hair.'
- b. Maria se li è lavati.
Maria to.self them.MASC.PL is.3.SG washed.MASC.PL

'Maria has washed them.'

(Belletti 2006:511-512, adapted)

A critical reader will notice that participle agreement with objects appears to be less systematic in Romance than in Indo-Aryan, in that it typically requires specific licensing conditions, such as some type of object movement (e.g. clitic movement of *li* 'them' in (56b)). However, archaic and dialectal registers have been argued to exhibit variants without movement, (57) (see also D'Alessandro & Roberts 2008:479,fn.3), which could thus be taken as the direct equivalent of the nested agreement pattern in Kutchi Gujarati and Marwari.

(57) *Archaic/Dialectal Italian – participle targets object*

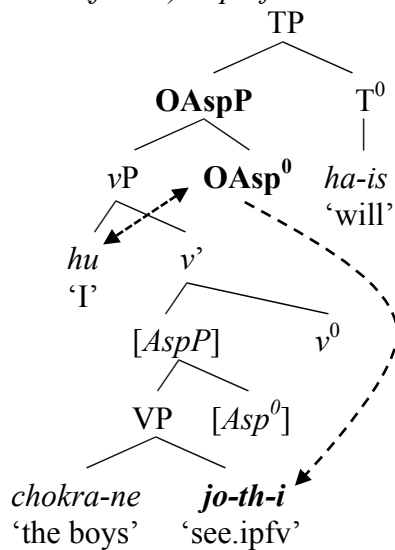
- Maria ha conosciute le ragazze.
Maria has.3.SG known.FEM.PL the girls.FEM.PL

'Maria has known the girls.'

(Belletti 2006:502, stylistically adapted)

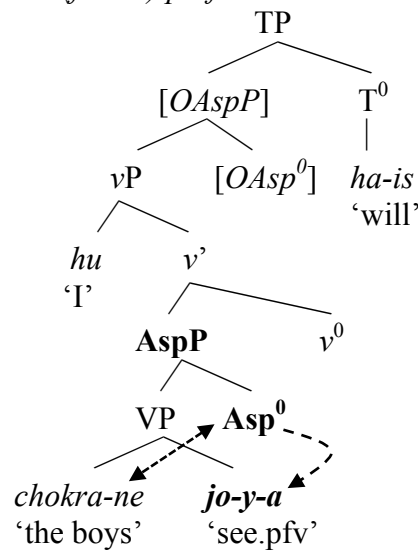
At this point, it is worth exploring what a treatment of Kutchi Gujarati as a participle agreement language would look like. The main idea is that true verbal agreement (as visible on future tense suffixes) always targets the subject; this is presumably an instance of agreement with the T head. As for the split in (54a-b) (and, by analogy, (55a-b)), this is not a split in *verbal agreement*, but rather a split in *participle agreement*. An outline of the relevant analysis can be modeled after Belletti's (2006:510-512) tentative proposal for the subject-/object-agreement split in (56). She proposes that a *vP*-internal participle-agreement phrase (*AgrPstPrtP*) is responsible for (object) participle agreement with the object clitic *li* in (56b). By contrast, a *vP*-external *AgrPstPrtP* is responsible for (subject) participle agreement with the subject DP *Maria* in (56a). Moscati & Rizzi (2014:69) argue that Belletti's participle-agreement-related *AgrPstPrts* should be identified with aspectual heads. Based on Travis (1991, 2010) and MacDonald (2008), we could thus propose a *vP*-internal *Asp* head ("inner aspect") and a *vP*-external *OAsp* head ("outer aspect"). Accordingly, (58) provides a tentative sketch of the relevant participle agreement relationships in Kutchi Gujarati. The idea would then be that, the *vP*-external *OAspP* in (58a) agrees with the subject and subsequently passes the agreement information on to the main verb *jo-th-i*. By contrast, in (58b), the *vP*-internal *AspP* agrees with the direct object and subsequently passes the agreement information on to the main verb *jo-y-a*. As

indicated by dotted arrows, each aspectual head agrees with the structurally closest argument that it c-commands.

(58) a. (future) imperfective



b. (future) perfective



While the purpose of this article is to outline the hypothesis space rather than flesh out a specific analysis, it is worth briefly exploring the implications and further predictions of such an approach. For example, Kutchi Gujarati unergatives require subject agreement as opposed to default agreement in the perfective, shown in (59); this indicates that OAsp is active in (58b) as well, but object agreement bleeds subject agreement when both co-occur (see Belletti 2006 for similar assumptions with regards to Italian).

(59) Kutchi Gujarati

chokra	naach-y-a	<i>past perfective</i>
boys	dance-PFV-PL	
'The boys danced.'		

By contrast, object agreement cannot be possible in (58a), which indicates that the vP-internal *Asp* is only an 'active' agreement probe in the perfective. In fact, while the vP-external *OAspP* may always be projected, a vP-internal *AspP* may sometimes lack altogether when it is 'inactive' (e.g. in the case of stative predicates, cf. MacDonald 2008:27-29).

The proposal that perfective (-y-) participles may involve inner aspect (and thus a vP-internal *AspP*) makes further predictions that are tentatively confirmed by the following observation. If, as argued by MacDonald (2008), stative predicates lack inner aspect (i.e., *AspP*) altogether, this gives rise to the prediction that statives cannot occur in the perfective.¹³ Indeed, this is what one finds. Most stative predicates (*javab khabar ha-* 'know the answer', *vajan 80kg ha-* 'weigh 80kg', *ghadero ha-* 'own a donkey') involve copula constructions in Kutchi Gujarati. As illustrated in (60b), a

¹³ In connection with the interaction between statives and participles, see also Kratzer (2000) and Embick (2004).

perfective variant of (60a) is impossible. (On a related note, Cardona’s 1965:101 grammar of Standard Gujarati explicitly states that the auxiliary [and copula] *ha-* lacks a perfective form.)

- (60) a. valji-no vajan 80kg ha-th-o.
 Valji-GEN weight.M.SG 80kg COP-IPFV-M.SG
 ‘Valji weighed 80kg.’
 (*lit.* ‘Valji’s weight was 80kg.’)
- b. *valji-no vajan 80kg ha-y-o.
 Valji-GEN weight.M.SG 80kg COP-PFV-M.SG

Note, also, that the idea that perfective *-y-* participles are composed at the level of “inner aspect” captures Cardona’s (1965:101) observation for Standard Gujarati: “The perfective designates punctuality of the activity of the verbal root.”

Further, more general, support for unifying Kutchi Gujarati (and Marwari) participle agreement with Romance participle agreement stems from the fact that agreeing adverbs occur in both cases (see Magier 1983a:325 for Marwari, Grosz & Patel-Grosz 2014:228 for Kutchi Gujarati, Butt et al. 2016 for Urdu, Sindhi and Punjabi, D’Alessandro 2011 for Ripano [Italic, Romance], as well as Ledgeway 2011, 2016 and Silvestri 2016 for Southern Italian). The agreeing adverbs are predominantly aspectual, and presumably base generated in a position between *AspP* and *OAspP* (see also Cinque 1999:106). These patterns can be accounted for by assuming that *AspP* and *OAspP* enter an agreement chain that includes all intermediate agreement probes (e.g., the probes that are responsible for agreement on *vel-* ‘early’ and *paach-* ‘again’ in (61)).

(61) *Kutchi Gujarati*

- a. reena vel-i paach-i av-i.
 Reena.F.SG early-F.SG again-F.SG come-PFV.F.SG
 ‘Reena arrived early again.’
- b. khimji vel-o paach-o av-y-o.
 Khimji.M.SG early-M.SG again-M.SG come-PFV-M.SG
 ‘Khimji arrived early again.’

Interestingly, Standard Gujarati also exhibits adverb agreement (here: on *ekdhaar-* ‘continuously’) even though it patterns more like Hindi-Urdu and less like Kutchi Gujarati / Marwari in other respects. If the participle-agreement analysis is on the right track, this may indicate that even Standard Gujarati instantiates (*Agr*-based) participle agreement on perfective participles (rather than verbal agreement via *T*).

(62) *Standard Gujarati*

- šeela-thi kišor-ne ekdhaar-o naa dhamkaav-aa-y-o
 Sheela.F-INS Kishor.M-DOM continuously-M not scold-PASS-PERF-M
 ‘Sheela could not scold Kishor continuously.’
 (Mistry 1997:432)

To conclude, an analysis of Kutchi Gujarati and Marwari object agreement as past participle agreement is feasible, and it would directly account for the nested (Romance-style) agreement patterns present in these languages. This raises the option of treating object agreement as participle agreement in other Indo-Aryan languages as well, even in the absence of nested agreement patterns, e.g. in Hindi-Urdu.

6. Outlook

Indo-Aryan languages still raise many questions concerning the nature of accusative / ergative alignment. This article recapitulates Butt & Deo's (2017) insight that Indo-Aryan case/agreement systems can only be understood if we take their diachronic origins into consideration. Moreover, a review of the role that semantics and pragmatics plays in (differential) case marking provides a richer empirical scope, thus deepening the question of how to best model 'ergative' object agreement in Indo-Aryan. One of the core areas of investigations that needs to be addressed in the near future concerns the issue of whether Indo-Aryan object agreement should be subsumed under regular verbal agreement or under the notion of past participle agreement; data from Kutchi Gujarati and Marwari indicate that the latter is more explanatory.

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