Typological Variation in the Ergative Morphology of Indo-Aryan Languages*

Ashwini Deo [adeo@stanford.edu]
Devyani Sharma [dsharma@stanford.edu]

Stanford University

August 2002

Abstract

While New Indo-Aryan languages are a common example of morphological ergativity, the range of variation in ergative marking and agreement among these languages has not been examined in detail. The goals of this paper are twofold. We first present a detailed typology of ergative marking and agreement in Indo-Aryan languages, demonstrating that a progressive loss of ergative marking has occurred to varying degrees diachronically in different systems. This process is manifested in two distinct strategies of markedness reduction: loss of overt subject marking in the nominal domain and loss of marked agreement in the verbal domain. Second, we present a formal account of this typological range within the framework of Optimality Theory (OT; Prince and Smolensky 1993) by developing constraints on case-marking (Aissen 1999; Woolford 2000) and agreement in terms of universal subhierarchies of markedness. An extension of this analysis to dialectal variation in one language, Marathi, demonstrates that the dialectal typology parallels the cross-linguistic typology within the range permitted by the parent language (Old Marathi). This dialectal typology also furnishes more evidence of intermediate systems predicted by the OT analysis. Finally, the synchronic typological analysis of languages and dialects is correlated with the diachronic stages of loss of ergativity.

*This work is based in part on work supported by the National Science Foundation under Grant No. BCS-9818077. We wish to thank Judith Aissen, Joan Bresnan, Paul Kiparsky, Hanjung Lee and Peter Sells for their insightful comments and suggestions. Earlier versions of this paper were presented at the pamsession on South Asian languages at the Western Conference on Linguistics (WECOL, Fresno, October 2000) and the Stanford/UCSC Joint Workshop on Optimal Typology (Stanford, December 2000). We are also indebted to the audiences of both sessions for valuable input. Any remaining errors are our own.
Introduction

New Indo-Aryan (NIA) languages are commonly presented as an example of morphological ergativity. A less commonly noted fact is that ergative marking and agreement patterns are not uniform across these languages. The overt morphological expression of ergative case marking occurs to varying degrees in their nominal paradigms; variation is also observable in the ways in which agreement morphology cross-references arguments. Additionally, the languages which share ergative case-marking patterns do not necessarily share agreement marking patterns, resulting in an intricate cross-classification across systems.

This study first presents the range of variation in case and agreement marking in this language family. We derive the distinct systems of ergative case marking and agreement in different NIA languages (Hindi, Nepali, Gujarati, Marathi, and Bengali) as consequences of strategies to reduce the morphosyntactic markedness of the ergative paradigm — both within the nominal and verbal domains. Following this, we discuss dialectal variation within one of these languages, Marathi. The dialectic data strengthens the hypothesis that dialectal variation mirrors cross-linguistic variation (Bresnan and Deo 2001), but within the typological constraints set out by the parent language. In other words, the dialectal data indicates that a directionality is inherent in progressive loss of subject-marking. This is evidenced by the fact that no Marathi dialect reverts to a more differentiated subject-marking system than Old Marathi; the dialects only vary in terms of greater reduction of subject-marking than the parent system. Finally, we relate the current typological range to the diachronic picture of change in the Indo-Aryan system by locating each language at a different stage along a diachronic trajectory that reduces the markedness of marked constructions (in this case, the ergative clause). Our analysis shows that the range evident across all these systems does not reflect a set of idiosyncratic trajectories of change, but rather derives from the influence of universal markedness constraints on subject marking and agreement.

The analysis is framed in Optimality Theory (OT: Prince and Smolensky 1993) and employs language-particular rankings of universal constraints (Prince and Smolensky 1993; Aissen 1999) which allow an interaction of nominal marking, verbal inflection, and universal markedness to derive the distinct systems from the historically prior Middle Indo-Aryan (MIA) system. One trajectory for reducing the markedness of the original MIA ergative clause is a gradual loss of overt marking of agentive, perfect subjects. Hindi, Gujarati, Marathi, Punjabi, and Bengali are treated as successive diachronic stages in the loss of subject marking, achieved by the demotion of universal markedness constraints. Another strategy, found in Nepali, is to maintain subject marking but instead reduce the markedness of the verb agreement system.

In §1, we lay out the historical foundations of morphological ergativity in Indo-Aryan languages, examining the marked features of the MIA ergative construction. Following this, in §2 the five main types of subject-marking and agreement systems are presented, and briefly summarized in a cross-classification (§3). We present our OT analysis in §4 and §5. This analysis is then extended to
Marathi dialectal variation in §§6–§8 to demonstrate the similarities in the typological distribution of systems within a language and across languages. Finally, in §9, we relate our typological analysis to the diachronic stages in Indo-Aryan languages and summarize our findings.

1 The Ergative Construction in Indo-Aryan Languages

1.1 Ergativity and the Domain of the Present Study

The shift from an accusative-type to an ergative-type morphology in a language is generally connected to a passive construction which gets reanalyzed as an active one (Plank 1979; Dixon 1994; Peterson 1998). Standardly, ergativity has been conceived as of as follows:

(1) a. A grammatical pattern or process shows ergative alignment if it identifies intransitive subjects (Si) and transitive direct objects (dO) as opposed to transitive subjects (S1).

b. It shows accusative alignment if it identifies S1 and S2 as opposed to dO. (Plank 1979)

Split-ergativity refers to the occurrence of the ergative type of grouping of arguments in certain (usually) syntactic-semantic configurations, namely with high animacy objects, or in the perfect aspect. The type of ergative-split found in the New Indo-Aryan language is aspect-based. Transitive clauses in the perfect aspect and the past tense1 show ergative morphology. The subjects of intransitive clauses and direct objects of transitive clauses are marked nominative.2

In this paper, we restrict ourselves to the patterns of variation found in transitive, perfect clauses. Indo-Aryan languages do not show much variation in the subject marking and agreement patterns of subjects of intransitive, perfect clauses, or in the marking of intransitive and transitive subjects of non-perfect clauses. In these cases, the highest argument is marked nominative and is cross-referenced by the verb as the highest, nominative argument. It is crucially in the ergative clause that morphological and syntactic prominence are not aligned, leading to a marked construction. We will argue that the variation in Indo-Aryan languages shows a typology of possible strategies to render this construction unmarked.

1 The past tense in the modern languages derives historically from the perfect.

2 This is a simplification, as the case-marking facts are much more complex, depending on both the properties of events (volitional vs. nonvolitional, agent-controlled vs. non-agent-controlled) and the properties of arguments (animacy and definiteness) (Burt 2000; Mohanan 1994). But these facts do hold unambiguously in canonical transitive and intransitive clauses.
1.2 The Chronology of the Indo-Aryan Language Family

Hindi, Nepali, Gujarati, Marathi and Bengali, the languages discussed in this paper, are Indo-Aryan languages and arise from a common Old Indo-Aryan ancestor, Sanskrit (or a related dialect). The language typology that we are looking at is that of historically related languages, which moreover inherited morphological ergativity from Middle Indo-Aryan dialectal variants of Sanskrit. The synchronic patterns of variation that our account analyzes must therefore be regarded as the result of either retention or innovation in the domain of ergative morphology within each of the daughter languages.

The table in (2) gives an overview of the periods and languages associated with the periods of NIA, MIA, and Old Indo Aryan (OIA). It reflects the generally accepted classification and chronological position of the Indo-Aryan languages. The three periods are characterised by distinctions in the perfect construction that bear on the typology presented in this paper. We discuss these diachronic stages in greater detail in §9.

(2) Chronological Progression of the Indo-Aryan Languages

<table>
<thead>
<tr>
<th>Period</th>
<th>Linguistic stage</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Until 600 BC</td>
<td>Vedic</td>
<td>Old Indo-Aryan (OIA)</td>
</tr>
<tr>
<td>600 BC-200 AD</td>
<td>Epic and Classical Sanskrit</td>
<td></td>
</tr>
<tr>
<td>200 BC-700 AD</td>
<td>Prakrit languages</td>
<td>Middle Indo-Aryan (MIA)</td>
</tr>
<tr>
<td>700-1100 AD</td>
<td>Apabhramśa</td>
<td></td>
</tr>
<tr>
<td>1000 AD - present</td>
<td>Nepali, Bengali, Marathi, Hindi</td>
<td>New Indo-Aryan (NIA)</td>
</tr>
</tbody>
</table>

1.3 The Emergence of the Ergative Clause

Aspect-based split ergativity in Indo-Aryan (IA) languages has been presented as a classic case of the passive to ergative reanalysis seen cross-linguistically (Dixon 1994). A concise summary of the process may be outlined in the following way: Old Indo-Aryan (OIA) did not have an active, ergative construction. The original construction that gave rise to the ergative clause in the NIA languages was, in OIA, a passive, periphrastic perfect construction, which involved the use of a non-finite form of the verb (a deverbal adjective in the perfect aspect). This construction was one of the multiple devices in OIA of expressing the perfect aspect and the past tense. The rich tense-aspect system of OIA, underwent a radical process of simplification in MIA (Pischel 1981). Most inflectional forms such as the aorist and the inflectional perfect, were lost, and by late MIA,

---

3It must be noted that none of these languages can be regarded as directly descending from an earlier stage. For example, it has been suggested that Classical Sanskrit does not directly descend from Vedic, but another dialect, contemporaneous to the Vedic language. The hypothesis that Sanskrit was the source of Prakrit (and Pali) has also been proved untenable (Pischel 1981).

4This morphological form is also referred to as the past passive participle or the -ta participle with an Indo-European ancestor in -to (Hock 1986; Klaiman 1978).
even the non-perfect inflectional past disappeared.\footnote{Traditional grammarians do provide instances of the inflectional perfect and the aorist during this period, but they remain as isolated, unanalyzed forms for a few verbs like अहा-‘say’ and आत्मा-‘do’.} The periphrastic passive construction survived and became the only means of expressing the past tense and the perfect aspect. This loss of the inflectional system has often been cited as a reason for the increase in the frequency and the scope of this passive construction, which in turn led to the unmarking of the marked passive voice of this clause, and resulted in an active, ergative clause in late MIA (Hock 1986; Bubenik 1998).

1.4 Markedness of the Ergative Construction

As a result of this diachronic path, NIA languages show morphological ergativity based on the aspect split. They also represent an example of one of the main diachronic explanations for ergative patterning in languages – a shift from an accusative to an ergative system due to reanalysis of a passive structure as an active, ergative clause (Dixon 1994; Butt 2000). The agent, or the logical subject, which is an oblique grammatical function in the passive construction, is reinterpreted as the grammatical subject, while retaining its oblique morphology. The patient-like role, which is the passive subject, loses its grammatical subjecthood, and is mapped onto the object function. In the former stage, intransitive clauses may or may not passivize, depending on language-specific properties. However, in the latter, ergative stage, intransitive clauses are active, with no overt marking on the sole verbal argument.

The ergative construction in the Middle Indo-Aryan period had the following ergative properties:

(3) a. The agent, marked in the instrumental case, showed subject properties.

    b. The object of the transitive and the subject of intransitive clauses showed nominative case marking.

    c. The verb, based on the earlier passive participle, showed gender and number agreement with the nominative object.

    d. In intransitive clauses, the verb agreed in number and gender with the sole argument of the clause.

From the point of view of markedness theory (Battistella 1990), the reanalysis of the passive clause to an active one, can be understood as the emergence of the unmarked. The formalization of this process is beyond the scope of this paper. Informally, however, this process can be understood as the overriding of faithfulness constraints on syntactic voice, and discourse prominence, by markedness constraints on the morpho-syntactic expression of agents and patients. In other words, while the passive construction violates the constraint that agents must be realized as subjects in order to satisfy voice conditions,
its reanalysis as an active (ergative) construction violates voice conditions in 
order to express agents as subjects. However, while this constraint reranking is 
motivated by markedness reduction, it is crucial to note that the resulting 
active, ergative clause is also morpho-syntactically marked in several respects. 

In this discussion, we treat the surface realization of marked and unmarked 
values in terms of zero and non-zero morphemes (Greenberg 1966). Here, 
this applies to overt case and agreement marking. Indo-Aryan is essentially a 
nominative-accusative case-marking language. While cross-linguistically, mor-
phological ergativity in the perfect aspect (and past tense) is a commonly at-
tested phenomenon, this construction may be considered marked in terms of 
morphological structure.

First, assuming a prominence scale of subject > object > non-core 
function (Aissen 1999), the MIA ergative construction is marked in that the 
least marked function (subject) is expressed by a morphologically more marked 
case (ergative), while the more marked function (object) is expressed in the un-
marked (nominative) case.

Second, agreement generally indexes the least marked grammatical function, 
and subject agreement is the most commonly attested pattern; however, in the 
ergative construction, agreement is with the object.

A third marked feature of the construction is the lack of object marking. 
OIA nominative and accusative cases became syncretized in MIA leaving an 
absolutive case for both subject and object marking (Bubenik 1998). The overt 
marking on objects which has developed in NIA languages is based on factors 
of definiteness and animacy, the presence of which has been cross-linguistically 
attested (Silver 1976). This pattern of object marking developed in the non-
perfect aspects and spread to the ergative construction in the perfect. Modern 
NIA languages, therefore, have a complex system of object case-marking which 
is dependent on factors of definiteness and animacy (Cf. Differential Object 
Marking (DOM) in Aissen (2000), for Hindi). All the NIA languages in the 
typology under consideration here show more or less the same patterns of DOM. 
Thus, modern NIA has developed variable case marking for direct objects in 
transitive, perfect clauses, allowing both nominative and accusative marked 
objects. An OT analysis as in Aissen (2000) can be applied to this type of 
marking, and we assume this is yet another strategy used by NIA languages to 
reduce the markedness of the ergative clause. However, we do not discuss this 
any further in our paper, because typologically this strategy does not show much 
variation in Indo-Aryan languages, and thus has little bearing on the typology 
of NIA languages that we develop.

This paper focuses on the typological variation in ergative marking on sub-
jects and agreement patterns in five types of Indo-Aryan languages and treats 
them, as in the case of the development of DOM, as strategies for approaching 
a more unmarked case and agreement system. We show that the reduction of

\footnote{There have been arguments that Indo-Aryan cannot be considered as a simple nominative-accusative case-marking system, since there is evidence that it employs a complex system of case-marking that is closely inter-linked with verbal semantics (Mohanan 1994; Butt 2000).}
markedness of the ergative construction in NIA follows two basic strategies (not including DOM, discussed above):

(4) a. making the ergative subject paradigm less marked.
   b. reducing the markedness of the agreement pattern.7

Thus, the reduction of markedness will be looked at with respect to two aspects of the perfect clause: the morphological marking on the subject and the cross-referencing of arguments with agreement.

2 The Typology of Variation in NIA

In this section, we present the patterns of ergative marking and agreement found in several New Indo-Aryan languages: Hindi, Nepali, Gujarati, Marathi, Punjabi, and Bengali. As Marathi and Punjabi show essentially the same case and agreement pattern, we represent the two patterns with examples from only one of them: Marathi. This pattern will be referred to as the Marathi/Punjabi pattern. The array of data in this section illustrates two crucial points regarding the typology of these languages. First, languages have reduced the original MIA pattern of perfect subject marking to differing degrees but by following the same paths; the languages are in fact presented in order of decreasing overt subject marking. Second, the agreement pattern of each language is related to, but crucially not fully determined, by the subject-marking pattern. We will return to these points after the presentation of each ergative system.

2.1 Hindi

In Hindi, the perfect subject is morphologically marked with the ergative post-positional clitic in all persons and numbers. The ergative post-positional clitic in Hindi is -ne. In Table (5) and all of the paradigm tables that follow, the forms that are in boldface represent overt marking in the perfect subject paradigm.

7Throughout this paper, we look at agreement as a device that indexes any grammatical properties of NPs on the verb. The languages represented here show variation in the specific grammatical properties of the NPs that are indexed by the verb. For example, Hindi, Marathi, Punjabi, and Gujarati show gender and number agreement with the object in ergative clause. Nepali shows person and number agreement, while Bengali has only person agreement on the verb. It is important to note that those languages which have object agreement do not have person-based agreement, while those languages which have subject-agreement show agreement based on person.
Agreement in Hindi is governed by the following rule, from Mohanan (1994:105):

(6) The verb agrees with the highest ARG[UMENT] associated with the NOM[INATE] case.

The data in (7) shows the agreement facts. The arguments that the verb agrees with and the agreement morphemes are in boldface. (7a) shows the non-perfect clause, in which the verb agrees with the nominative subject. In (7b), the verb agrees with the nominative object, because it is the highest nominative argument. The verb may not agree with the ergative marked subject. The verb in (7c), on the other hand, shows default masculine singular agreement when the object is accusative. Agreement is blocked because both arguments are case-marked.

(7) a. sītā rām-ko pīṅ-tī hai
   Sītā-FEM-NOM Rām- MASC-ACC pīṅ-PRES-FEM-SG aux-3RD-SG
   ‘Sita hits Ram.’

b. rām-ne chidīyā dekh-ī
   Rām- MASC-ERG bird-FEM-NOM see-PERF-FEM-SG
   ‘Ram saw a sparrow.’

c. sītā-ne rādhā-ko pīṅ-ā
   Sītā-FEM-ERG Rādhā- FEM-ACC pīṅ-PERF-MASC-SG
   ‘Sita hit Radha.’

2.2 Nepali

Nepali, like Hindi, has ergative marking on the subject in all three persons. The paradigm of Nepali subject marking is given in Table (8).

(8) | ASPECT | PERSON | NUMBER |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
</tbody>
</table>
| Non-perf | 1 | mai | ham
| Perf       | 1 | mai-le | ham-le
| Non-perf | 2 | ta | tim
| Perf       | 2 | tai-le | tim-le
| Non-perf | 3 | n | un
| Perf       | 3 | usi-le | un-le
Nepali differs from other languages in the present typology in the fact that overt case-marking on the subject does not block subject agreement. The transitive verb in Nepali agrees in person and number with the subject. In (9), we compare an intransitive clause with a nominative subject, and a transitive clause with an ergative subject.

In the examples, we can see that the verb takes the same ending both in the case of the nominative subject and of the ergative subject. The object in (9b), in spite of being nominative, does not trigger agreement. In Nepali, therefore, it is the subjecthood of an argument that triggers or blocks agreement and not overt case-marking (or absence thereof), as in the other languages presented here.

(9) a. ma bas-en
    I-NOM sit-pst-1-sg
    ‘I sat.’

    b. mai-le mero lugā dho-en
    I-ERG my clothes-nom wash-pst-1-sg
    ‘I washed my clothes.’

2.3 Gujarati

Gujarati also shows subject marking in all three persons, like Hindi and Nepali. The paradigm for Gujarati subject marking is shown in Table (10).

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
<td>plural</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>hū</td>
<td>ame</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>meñ</td>
<td>aме</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tu</td>
<td>tame</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>teñ</td>
<td>tame</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>te</td>
<td>te-o</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tege</td>
<td>temge</td>
<td></td>
</tr>
</tbody>
</table>

The notable feature of the Gujarati paradigm in (10) is the morphological syncretism of the nominative and the ergative in first and second person subject, but only in the case of plural subjects. In other words, the loss of subject marking has only occurred in subparts of the person (first and second) and number (plural) paradigms.

The other point at which Gujarati differs from most other IA languages is in its object agreement pattern. In Gujarati, the verb agrees in number and gender with the object, irrespective of whether it is in the nominative or the accusative, as seen in (11). In (11b) the object, Rāj is case marked, but the verb still agrees with it.

(11) a. Seeta-e kāgal vāc-yo
    ‘Seeta read the letter.’
b. Sitā-e rāj-ne pujav-yo  
Sitā-FEM-SG  
ERG Rāj-MASC-SG  
ACC harass-PST-MASC-SG  
'Seeta harassed Rāj.'

(adapted from Mistry 1997)

In this kind of language then, case marking doesn’t block agreement with the object, but it does block agreement with the subject. This contrasts with Hindi, which shows default agreement if there is no nominative argument in the clause.

2.4 Marāṭhi

Marāṭhi and Punjabi, though geographically separated, share the same system of ergative subject marking and take the reduction of subject marking slightly further than Gujarati. Where Gujarati has reduced subject-marking in a subset of first and second person subjects (only those which are plural), all first and second person perfect subjects in Marāṭhi and Punjabi are syncretized with the nominative forms. Furthermore, it is important to note that Old Marathi was in fact like Gujarati, in that first and second person plural subjects did not bear ergative case, while ergative case was overt in the singular. This suggests that the progressive loss of ergative subject marking proceeds systematically through the paradigms of person and number.

The paradigm for Marāṭhi non-perfect and perfect subjects is shown in Table (12).

(12)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Person</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>mṛ</td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>mṛ</td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tōn</td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tōn</td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>tō/ṭ/te</td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tyā-ne, ti-ne</td>
</tr>
</tbody>
</table>

The agreement facts for both Marāṭhi and Punjabi are not self-evident from this paradigm. One might expect the verb to agree with the subject when it is unmarked in the local person (and apparently nominative) and not to agree when the subject is overtly marked. However, in spite of overt morphological syncretism with the nominative case, first and second person perfect subjects in Marāṭhi/Punjabi do not agree with the verb.

This is shown with the Marathi example in (13). In (13a), the subject is a non-perfect nominative subject and the verb agrees with it. In the perfect clause in (13b), the verb agrees with the nominative object, as in Hindi, even though the first-person subject mṛ does not show overt case marking. In (13c), agreement with the object is blocked because of overt accusative marking on the object, and so default neuter agreement marks the verb.
2.5 Bengali

Whereas the Marathi/Punjabi pattern constitutes an intermediate stage of loss of subject-marking, Modern Bengali has lost subject marking altogether. Old Bengali had an ergative construction in the perfect aspect (Chatterjee, 1926, 1970:947-8), which showed properties similar to the MIA ergative clause. Modern Bengali, however, has lost this pattern, and shows the same kind of subject case-marking for its non-perfect and perfect subjects. The Bengali paradigm for perfect and non-perfect subjects is shown in (14).

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Person</th>
<th>Number</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-perf 1</td>
<td>āmī</td>
<td>āmī</td>
<td>āmarī</td>
<td>āmarī</td>
</tr>
<tr>
<td>Perf     1</td>
<td>āmī</td>
<td>āmī</td>
<td>āmarī</td>
<td>āmarī</td>
</tr>
<tr>
<td>Non-perf 2</td>
<td>tūi, tūṁī</td>
<td>tūrī</td>
<td>tūrmī</td>
<td>tūrmī</td>
</tr>
<tr>
<td>Perf     2</td>
<td>tūi, tūṁī</td>
<td>tūrī</td>
<td>tūrmī</td>
<td>tūrmī</td>
</tr>
<tr>
<td>Non-perf 3</td>
<td>o</td>
<td>o</td>
<td>orī</td>
<td>orī</td>
</tr>
<tr>
<td>Perf     3</td>
<td>o</td>
<td>o</td>
<td>orī</td>
<td>orī</td>
</tr>
</tbody>
</table>

The data in (15) captures the agreement facts for Bengali. In both (15b) and (15c), the verb agrees with the subject in person, just as it does in the non-perfect clause in (15c). The verb thus maintains a nominative-accusative pattern of case and agreement marking in all its tenses and aspects.

(15) a. āmī sītā-ke dékha-chī
     I-NOM Sītā-ACC see-1-SG-PRES
     ‘I see Sita.’

b. āmī sītā-ke dékha-lēm
     I-NOM Sītā-ACC see-1-SG-PAST
     ‘I saw Sita.’

c. anū sītā-ke dékha-lo
     Anū-FEM-NOM Sītā-ACC see-3-SG-PAST
     ‘Anū saw Sita.’
What is crucially different in Bengali, when compared with Marathi and Punjabi (which show loss of ergative marking in the first and second persons), is that the complete loss of ergative marking has triggered subject agreement in Bengali.

3 Cross-Classification of the Indo-Aryan Languages

Summarizing the data that we have examined so far, it can be seen that the languages presented can be classified in different ways according to their subject marking and agreement patterns.

3.1 Subject Marking

Table (16) shows how these languages may be cross-classified according to subject marking. Hindi and Nepali pattern in the same way with regard to their subject marking, with overt ergative case in all three persons.

In the Marathi/Punjabi pattern, there is no overt marking on first and second person ergative subjects, and ergative case is present in terms of abstract case features alone.

Gujarati also shows a restriction of subject marking in first and second person ergative subjects, but restricts this within the domain of number. In Gujarati, only plural perfect subjects in the first and second person have become syncretized with the nominative forms.

Finally, Bengali has no morphological or abstract case on its perfect subjects, but marks them nominative, patterning in a third way. Thus, the table demonstrates several stages of loss of subject marking proceeding in a single direction. There are no systems in this typology where only first or second person perfect subjects are marked, but third person subjects are not.

(16) Overt subject marking in perfect constructions:

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>HINDI</th>
<th>NEPAL</th>
<th>GUJARATI</th>
<th>MARATHI/PUNJABI</th>
<th>BENGALI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st sc</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1st pl</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2nd sc</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2nd pl</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3rd sc</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3rd pl</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

3.2 Agreement marking typology

Table (17) shows the classification of languages according to agreement marking on the verb. The first two rows indicate whether subject agreement occurs in perfect clauses in a given language, and the next two rows show the types of
object agreement. Hindi and Marathi/Punjabi agree with the nominative object, showing default agreement otherwise. Gujarati extends object agreement to accusative objects. Nepali and Bengali pattern together in that they both show agreement with the highest grammatical function – the ergative subject in the case of Nepali, and the nominative subject in the case of Bengali.

There are two important points to observe in the typology of agreement here. First, the range of agreement types is wider than is often supposed for Indo-Aryan languages and cannot always be described as default agreement with the nominative argument. Second, we never find a system where the verb agrees with the non-nominative object rather than the nominative subject.

(17) Agreement in perfect constructions:

<table>
<thead>
<tr>
<th>AGREEMENT</th>
<th>HINDI</th>
<th>MARATHI/PUNJABI</th>
<th>GUJARATI</th>
<th>NEPALI</th>
<th>BENGALI</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgrS [nom]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>√</td>
</tr>
<tr>
<td>AgrS [non-nom]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>√</td>
<td>0</td>
</tr>
<tr>
<td>AgrO [non-nom]</td>
<td>0</td>
<td>0</td>
<td>√</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AgrO [nom]</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It should be clear from these two tables that the groupings of subject-marking types and agreement types do not overlap exactly. The languages which group together with respect to subject case marking in Table (16) are not necessarily the ones showing similar agreement marking properties. For example, Hindi and Marathi/Punjabi don’t share subject marking systems in Table (16), but they do share the subject nominative object agreement pattern in Table (17). Conversely, Gujarati groups with Hindi in terms of subject case marking, but not in terms of object agreement. Finally, Nepali and Bengali have different subject marking patterns, but the same subject agreement pattern.

While many of these patterns in Indo-Aryan languages have been noted in previous research, a synthesis of these systems into this broad, yet structured, typology has not been adequately made in the literature. Treating these diverse systems as all pertaining essentially to the reduction of markedness of the ergative construction requires any theory of Indo-Aryan languages to allow, on the one hand, such diverse phenomena as agreement over case-marking and lack of agreement with null-marking, while, on the other hand, still ruling out a few unattested systems. In the analysis that follows, in §4, we present a set of constraints that restricts the typology where necessary, but permits a wide enough range of systems to emerge as is called for by the diversity in the data.

4 Subject case constraints

This section presents the Optimality Theoretic constraints on subject-marking. In Optimality Theory, grammars are represented by language-particular rankings of universal constraints. Constraints generally fall into two classes: faithfulness constraints, which relate a feature in the input to one in the output, and markedness constraints, which place restrictions on possible output structures.
Candidate outputs are evaluated for a given input according to these ranked constraints. We first present two faithfulness constraints we will assume, and then present the markedness constraints. For the latter, we draw on Aissen’s (1999) implementation of harmonic alignment and constraint conjunction in syntax, based on Prince and Smolensky (1993). Alignment constraints are derived from the alignment of various universal hierarchies. Since such constraint alignments are derived from universal scales, they cannot be mutually re-ranked within one constraint subhierarchy. The prohibition on mutual re-ranking of constraint alignments within a universal subhierarchy is crucial to the analysis.

4.1 Faithfulness constraints

The faithfulness constraints we adopt in this analysis relate to the realization of abstract case. Our analysis is primarily an account of the paths available for reducing the morphological marking of subjects. However, a purely morphological account is complicated by the data from Marathi and, later, the dialect of Gujarati as well. These systems provide evidence that morphological and abstract case do not always pattern identically, but may show partial mismatches. Local person perfect subjects in Marathi are morphologically nominative-like, yet behave like ergative subjects.

The evidence for this is twofold. First, as was pointed out in (13), ergative subjects that do not bear case in the Gujarati and Marathi systems do not trigger subject agreement in the way that Bengali null-marked subjects do. Second, null ergative and nominative subjects behave differently with respect to the case of their modifiers. This is demonstrated in (18).

(18) a. mī ek āmbā khā-llā
    I-ERG one mango-NOM eat-PERF-3.SG
    ‘I ate a mango.’

    b. vedyā ashā mī ek āmbā khā-llā
        foolish-OBL like-OBL I-ERG one mango-NOM eat-PERF-3.SG
        ‘Foolish me ate a mango.’

    c. vedī ashā mī ek āmbā khā-te
        foolish-NOM like-NOM I-NOM one mango-NOM eat-PRES-1.SG
        ‘Foolish me eats a mango.’

(Marathi)

In (18b), the adjectival modifier of the perfect, transitive subject, which agrees with the head noun, occurs in the oblique case. Modifiers in Marathi and Gujarati are marked in the oblique case when they occur with non-nominative nominal heads. By contrast, the same modifier takes the nominative form when

---

8Essentially, this operation takes a binary structural scale (e.g. a grammatical function scale) and aligns each member of a second scale (e.g. an animacy scale) with the first.
modifying a non-perfect subject as in (18c). Furthermore, the verb does not
agree with the null ergative subject in (18b) either.

These data indicate that abstract and morphological case cannot be assumed
to always coincide. Woolford (2001) also notes the need to distinguish between
null ergative and nominative in languages like Marathi. However, she exclusively
restricts her case analysis to abstract case, and thus does not deal with differences
in morphological expression. She concludes her discussion of Marathi saying
that “these subject person splits do not involve an alternation between different
Cases, but only whether or not the ergative abstract Case is morphologically
realized. The present paper [Woolford 2001] is limited to dealing with situations
involving choices among different abstract Cases” (2001:534-5).

However, in the case of the Marathi dialect of Gowari, discussed later, we find
that the morphologically null local subjects in perfect clauses may in fact show
abstract nominative-like behavior in terms of agreement. The fact that both
alternatives are available and are closely related is not addressed by Woolford.

Woolford directs the reader to Aissen’s work for an explanation of Marathi,
as Aissen deals with morphological realization of case. As we will show in our
analysis, Aissen’s (1999) constraints do in fact provide an explanation of the
null-marking of certain subjects. However, as her analysis applies only to mor-
phological case, it has the converse problem of Woolford’s constraints. While
Woolford’s account does not explain the morphological variation in Marathi sub-
jects, Aissen’s account fails to explain the non-nominative agreement behavior
of these subjects. In the present data, we need to distinguish between true nom-
inative subjects (Bengali) and surface nominative subjects (Marathi) in perfect
clauses. The data, therefore, poses a central problem for both Woolford’s and
Aissen’s interpretations of constraints on case, as neither of their analyses treats
the relation between abstract and morphological case in the specific instances
when the two do not coincide.

To start with, we assume a basic faithfulness constraint that maps mor-
phological features to abstract features. Rather than limiting the discussion to
either abstract (as Woolford does) or morphological (as Aissen does) case, we
assume that there is a direct mapping from morphology to abstract features.

We adopt a standard Lexical-Functional Grammar (LFG) model of mapping
from the surface structure to the semantic/grammatical information structure.
In its OT interpretation, this is expressed in terms of a relation between an un-
despecified input and various possible candidate outputs, containing pairings
of surface representations (constituent-structure) and abstract grammatical repre-
sentations (functional-structure). Figure 1, from Bresnan (2000:26), shows this
mapping. Three of many possible candidates are shown in the example.

At this level, faithfulness is construed as an identity between the surface
realization of morphological structure and the corresponding abstract informa-
tional content of the clause. Following Kuhn (2001), Lee (2002a) discusses in
detail the need for this mapping, treating it more specifically as an output-
output correspondence between the c-structure and the f-structure of a given
candidate. The faithfulness constraint we assume in our analysis for the purpose
of ensuring this mapping is given in (19):
Figure 1: Architecture of INPUT-OUTPUT relations in OT-LFG (From Bresnan 2000:26).
(19) \textit{cs-fs}: Case in the f-structure of an argument must be identical with the case-marking in the c-structure of the argument

When this constraint is highest ranked, it selects candidates which have identical morphological and abstract case. In other words, if a clause has a subject with overt ergative marking, then the constraint will select a clause with an abstract ergative subject in its f-structure, as opposed to an abstract nominative, for example. This is analogous to constructive case as developed in Nordlinger (1998), as the morphology drives the abstract case realization. The constraint is not symmetric: c-structure (surface morphological) case informs f-structure (abstract) case, but not vice versa.

The second faithfulness constraint we adopt for the present discussion is Woolford's (2000) constraint, which marks perfect subjects as abstract ergatives.

(20) \textit{faith-len perf}: A lexically-specified inherent Case licensing feature must be checked in perfect clauses

When highly ranked, this constraint requires abstract ergative case to be associated with perfect subjects, independent of the loss of overt morphological marking. This constraint conflicts with the basic c-structure-to-f-structure mapping constraint, as it imposes an abstract ergative regardless of the morphology.

4.2 Markedness Constraints

The typological range in the tables in (16) and (17) — with partly independent subject and agreement patterns — lends itself to an analysis which draws on universal markedness hierarchies. In this section, we present universal subject-marking case constraints and their specific rankings.\footnote{We assume that a correspondence of argument-structure and functional-structure establishes the grammatical functions of arguments in the input. The focus here is mainly on the association of morphological marking with grammatical functions, not the determination of grammatical functions themselves, which will be assumed to be independently ensured through the type of argument-function correspondences proposed in Lexical Mapping Theory (LMT; Bresnan & Kanerva, 1989) and further developed for OT in Bresnan (2001).} All the markedness constraints here apply strictly to the morphological expression of case.

The hierarchy of subject-marking constraints used here was proposed in Aissen (1999) for a range of case phenomena. In (21), the two universal scales of grammatical function and person rank are listed in the first column. The typological markedness reversal between subjects and objects noted by Comrie (1989) and Battistella (1990) among others, namely that what is most marked for subjects is least marked for objects, is captured by direct and inverse alignments of subject and object respectively with the person hierarchy. This is shown in the second column. These harmonic alignments state, for instance, that it is more harmonic for a subject to be associated with first person than third person. Finally, the universal subhierarchies of actual constraints are shown in the third column. These are derived by prefixing the "Avoid" operator (*) to each alignment and stating the ranking in terms of decreasing
markedness. Most importantly, the ordering of these constraints relative to one another is universal.\textsuperscript{10}

\begin{align*}
(21) & \text{universal scales} & \text{harmonic alignment} & \text{constraint alignment} \\
\text{Subject} > \text{Object} & \text{Su/loc} > \text{Su/3} & \text{*su/3} \gg \text{*su/loc} & \\
\text{local (1st,2nd)} > \text{3rd} & \text{Oj/3} \gg \text{Oj/loc} & \text{*oi/loc} \gg \text{*oi/3} & \\
\end{align*}

Aissen conjoins these constraints with the constraint *φ\textsubscript{c}, resulting in a requirement to mark these arguments with some case form. This captures the idea that marked configurations of features should be morphologically marked.

The ranking in (22) basically states that 3rd person subjects are universally more marked than 1st and 2nd person subjects. Each constraint can only be satisfied by overt case-marking.

\begin{align*}
(22) & \text{*su/3} \& \text{*φc} \gg \text{*su/local} \& \text{*φc} & \text{[Aissen 1999:673]} \\
\end{align*}

As our data is specific to the domain of the perfect aspect, we conjoin Aissen’s constraints with a constraint on perfect subjects.\textsuperscript{11}

\begin{align*}
(23) & \text{*su/3} \& \text{*su/perf} \& \text{*φc} \gg \text{*su/local} \& \text{*su/perf} \& \text{*φc} \\
\end{align*}

This is a necessary contextual restriction to perfect contexts. The highest constraint in (23) states that a subject occurring in the perfect context and simultaneously being 3rd person must be overtly marked. The universally less marked constraint requires this of local person perfect subjects. As all of the present discussion applies to this domain of perfect clauses, we omit the specification of perfect from the description of these constraints. In all other respects, these constraints are identical to Aissen’s (1999).

\begin{align*}
(24) & \text{*struc}\textsubscript{c}: \text{avoid (case specification) structure} & \text{(Prince & Smolensky 1995:25; Aissen 1999)} \\
\end{align*}

Finally, the constraint in (24) penalizes any morphological structure; Aissen (1999) employs the constraint *struc\textsubscript{c} to specifically penalize case morphology, which is our use here. *struc\textsubscript{c} serves as an economy constraint.

Using just the three constraints in (23) and (24), we can begin to account for changes in the various IA subject-marking systems. In (25) we list the possible re-rankings of the three constraints, along with the systems in which these rankings are found.

\begin{align*}
(25) & \text{su/3} \& \text{φc} \leftarrow \text{*struc}\textsubscript{c} & \text{[Bengali: No subjs marked]} \\
& \text{su/loc} \& \text{φc} \leftarrow \text{*struc}\textsubscript{c} & \text{[Marathi/Punjabi: Only 3p subjs marked]} \\
& \text{su/loc} \& \text{φc} \leftarrow \text{*struc}\textsubscript{c} & \text{[Nepali, Hindi, MIA: All subjs marked]} \\
\end{align*}

\textsuperscript{10}The corresponding object marking constraints are not addressed in this paper (see Aissen (2000) for a discussion of this constraint subhierarchy).

\textsuperscript{11}See Sharma (2001) for a discussion motivating constraints on overt-marking of arguments based on perfectivity.
In (25), *struc is progressively promoted above the constraints requiring subject marking — partially in Marathi/Punjabi and completely in Bengali — allowing the universal avoidance of overt subject marking to emerge.\footnote{Gujarati is not included in this tabulation, although it falls in the same intermediate group as Marathi and Punjabi. It is excluded only because its subject-marking pattern is sensitive to both person and number and therefore cannot be exclusively accounted for by the arrangement of the person constraints in (25).}

The tableaus in (26)-(30) demonstrate these rankings. The examples show only the relevant, partial inputs for transitive, perfect clauses for clarity of presentation. Each example in (26)-(30) contrasts two different inputs, to show which candidate gets selected according to the person feature in the input and the language particular rankings. In the first two tableaus, the candidates (a), (b), (c), and (d) are evaluated according to the ranked constraints.

(26) Nepali, Hindi, MIA

<table>
<thead>
<tr>
<th></th>
<th>(S_U / f &amp; *_{vc} )</th>
<th>(S_I / loc &amp; *_{vc} )</th>
<th>(*_{struc} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(S_U / f &amp; *_{vc} )</td>
<td>(S_I / loc &amp; *_{vc} )</td>
<td>(*_{struc} )</td>
</tr>
<tr>
<td>(\text{a} )</td>
<td>S-erg</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(\text{b} )</td>
<td>S-g</td>
<td>s1</td>
<td>*</td>
</tr>
<tr>
<td>(\text{c} )</td>
<td>S-erg</td>
<td></td>
<td>s1</td>
</tr>
<tr>
<td>(\text{d} )</td>
<td>S-g</td>
<td></td>
<td>s1</td>
</tr>
</tbody>
</table>

In (26), *struc is ranked below both subject constraints, resulting in marked subjects always satisfying one of the higher ranked constraints. In (27), on the other hand, *struc dominates both markedness constraints, so the morphologically unmarked candidates are selected as optimal. Since there is no discrepancy between morphological and abstract case in Nepali, Hindi, and Bengali, we do not include the faithfulness constraints in the tableaus for the (26) and (27).
(27) Bengali

<table>
<thead>
<tr>
<th></th>
<th>*struc</th>
<th>*struc / 3 &amp; *θv.</th>
<th>*struc / loc &amp; *θv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. S-∅</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>c. S-erg</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. S-∅</td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

In Marathi, shown in (28), however, the role of the faithfulness constraints is apparent, as is the intermediate ranking of *struc. In terms of markedness constraints, *struc intervenes between the two subject person constraints. 3rd person subjects must be case-marked to satisfy the highest constraint, even though they violate *struc, and so candidate (d) is chosen over (f). However, since the lower-ranked subject constraint is below *struc, null-marked 1st and 2nd person subjects are preferred, so candidate (c) is chosen over (a).

The candidates (b) and (f) show how the two faithfulness constraints interact with the others. Without Woolford’s constraint, which lexically requires an abstract ergative case, a nominative 1st and 2nd person subject would win; however, this choice would not derive the facts presented earlier regarding the non-nominative behavior of these null-marked subjects. The constraint CS-FS is included to show that it is violated in favour of satisfying faith-lexperf. The constraints therefore predict that it is also typologically possible for the order of the two faithfulness constraints to be switched. Later, in the discussion of Marathi dialects, we will see that the dialect of Gowari instantiates this prediction.
(28) Marathi, Punjabi

<table>
<thead>
<tr>
<th>Subject</th>
<th><em>synt</em></th>
<th><em>synt</em></th>
<th><em>synt</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject [3rd]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. S-erg(overt)</td>
<td>!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. S-nom(φ)</td>
<td>!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>c. S-erg(φ)</td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Subject [loc]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. S-erg(overt)</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. S-nom(φ)</td>
<td>!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>f. S-erg(φ)</td>
<td>!</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Finally, in Gujarati the ranking is the same as in Marathi and Punjabi, except for an additional, independent phenomenon of number-sensitivity in subject-marking. The marking of subjects is restricted according to both person and number. First and second person plural subjects undergo syncretism with the nominative. This does not in fact pose a problem for a person-based analysis of subject-marking reduction, as Gujarati clearly shows the same person hierarchy sensitivity as Marathi and Punjabi. It simply adds the additional dimension of number to this process.

The morphological markedness of the plural over the singular number is observable cross-linguistically in various domains (Greenberg 1966:28-9). The plural is more susceptible to syncretism or neutralization in marked contexts than the singular. In order to account for the specific syncretism here, we provisionally use the constraint in (29).

(29) * syncret/sg Avoid syncretism of case-marking in the singular number.

This constraint penalizes morphological syncretism between distinct cases (such as the nominative and the ergative) in the singular, thus capturing the cross-linguistic observation that syncretism is more common in the plural context, as well as accounting for the subject-marking properties in some Marathi dialects later in this paper.
(30) Gujarati

The three basic patterns of constraint rankings shown in the three examples discussed above give us the three broad sets of language types from (16). As *SU/3 and *SU/LOC are constraints within a universal subhierarchy, they are never mutually reranked; their ranking only varies in relation to *STRUC. Under our analysis, their progressive demotion below *STRUC represents the systematic elimination of overt marking on subjects.

The next section presents an analysis of the agreement patterns in these languages, which, as was shown earlier, are not always exact complements of overt case marking.

5 Agreement Constraints

As the data earlier showed, agreement cannot be captured as a direct default which occurs only when case is absent. Nepali allows agreement across case-marked subjects, and Gujarati allows agreement with case-marked objects. The constraints deriving agreement patterns, need to be correspondingly nuanced to capture these patterns of variation. The constraints we develop for agreement are given in (31), (32) and (33).

(31) express agr: A predicate agrees with some argument

The constraint in (31) is a type of faithfulness constraint requiring agreement of some sort. The crucial difference in choosing to formulate the constraint as express agr rather than as a markedness constraint such as *express
AGR (formulated like *STRUC) is that the formation in (31) favours agreement of some sort, while a markedness constraint would favour non-agreement. Cross-linguistically, case marking performs a discriminant function amongst arguments, often signalling a marked situation, as noted by Dixon (1994), among others. We treat agreement, on the other hand, as a prominence relation with the least marked argument. In other words, case and agreement do not perform identical functions; case is avoided except under marked circumstances, such as 3rd person subjects, while agreement is a default, occurring in unmarked contexts such as subjects over objects. We also distinguish explicit number, gender or person agreement from default agreement here. The constraint in (31) is not satisfied by default agreement, which takes the form of masculine or neuter singular inflection in these languages.

Note that since default agreement is treated as non-agreement in our analysis, it is assumed to occur in order to satisfy an independent requirement for finiteness marking. A constraint on finiteness marking is necessary to ensure some overt (default case) marking to distinguish finite from nonfinite verb stems. Since this requirement holds identically for all the languages in question, we exclude this constraint from our discussion. As a result, candidates with completely uninflected verb forms are not considered here. Candidates with default agreement, however, may be optimal for certain inputs and default agreement does interact with full agreement. The examples that follow show the circumstances under which default agreement is preferred over full agreement.

The constraint EXPRESS AGR is used in Bresnan (2001) only for subject agreement. In order to generalise her constraint systematically, we align it with the relational hierarchy to permit agreement with more than just subjects, but still to constrain the relative markedness of each type of agreement. The resulting constraint alignments are given in (32).

\[(32) \quad \text{*non-core GF}/AGR \gg \text{*obj}/AGR \gg \text{*su}/AGR\]

The universally least marked agreement pattern, according to this constraint hierarchy, is subject agreement. Object agreement is more marked and agreement with non-core grammatical functions is the most marked. This highest constraint is left out of the discussion, as it is never violated in the data here; for example, we never find agreement with dative subjects or objects (at least within the Indo-Aryan typology).

So far, the agreement constraints simply derive agreement based on grammatical function. However, the typology of agreement systems in (17) showed that overt case-marking sometimes blocks agreement across the board, but in other instances does not. In other words, the data we have presented shows that agreement does in fact occur with NPs bearing certain overt cases.

Thus, agreement is not only sensitive to grammatical function but also to the case that a particular grammatical function bears. This requires two dimensions of agreement relations: one with grammatical function, as above, and one with case.

To derive the latter, we assume a similar alignment of agreement with case, as shown in (33). In her cross-linguistic study of the interaction of case-marking
with faithfulness constraints, Woolford (2000) proposes the universal hierarchy of *ergative, *nominative > *accusative > *nominative, which we follow here to derive case-sensitive agreement.

\[(33) \quad *_{\text{erg/agr}} > *_{\text{acc/agr}} > *_{\text{nominative}}\]

We restrict this hierarchy to abstract case as Woolford does. In fact, this gives the correct results, as the constraint *ERG/AGR correctly prevents agreement with 1st and 2nd person subjects in Marathi/Punjabi and Gujarati, regardless of whether their morphological case is overt.

These two universal subhierarchies of agreement constraints in (32) and (33) interact to derive the observed language types. In the examples that follow, case selection is assumed to be ensured by the constraints presented in the last section. We therefore only include candidates with the correct subject case, and the examples are restricted to examining agreement alternations.13 Each example shows three different types of clausal inputs — perfect clauses with specific (therefore accusative) objects, perfect clauses with non-specific (therefore nominative) objects, and non-perfective clauses — to show how the constraints interact to derive agreement for different clause types.

First, we turn to Hindi, Marathi and Punjabi. This group allows agreement with either subject or object, as long as its case is nominative.

\[(34) \quad \text{Hindi, Marathi, Punjabi}\]

<table>
<thead>
<tr>
<th>Input: S O(spec) V(perf)</th>
<th>*_{\text{erg/agr}}</th>
<th>*_{\text{acc/agr}}</th>
<th>*_{\text{nominative}}</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg O-acc V-Sagr</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b. S-erg O-acc V-Oagr</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c. S-erg O-acc V-default</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Input: S O(nonspec) V(perf)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. S-erg O-nom V-Sagr</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>e. S-erg O-nom V-Oagr</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>f. S-erg O-nom V-default</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Input: S O V(nonperf)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. S-nom O-nom V-Sagr</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>h. S-nom O-nom V-Oagr</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>i. S-nom O-nom V-default</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

In (34), the first input requires case on both subject and object. In this situation, default agreement wins out of candidates (a), (b), and (c), because agreement with either argument would violate the restriction on agreement with ergative or accusative. When the object is not marked accusative, as in (d), (e), and (f), object agreement is preferred to a violation of the higher-ranked constraint *NOM/AGR.

13So, for example, all ergative-marked subject candidates for perfect inputs in Bengali would be ruled out by the rankings that we saw in (27).
express AGR. Finally, if neither subject nor object is case-marked, as in (g), (h), and (i), then subject agreement is ideal because object agreement is universally more marked.

Turning to Gujarati, the only difference between the Hindi-type group in (34) and the ranking for Gujarati in (35) is the promotion of the faithfulness constraint express AGR above *ACC/AGR in Gujarati.

(35) Gujarati

<table>
<thead>
<tr>
<th>Input: S O(spec) V(perf)</th>
<th>*ERG/AGR</th>
<th>EXP AGR</th>
<th>*ACC/AGR</th>
<th>*OJ/AGR</th>
<th>*SU/AGR</th>
<th>*NOA/AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg O-acc V-Sagr</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. S-erg O-acc V-Oagr</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. S-erg O-acc V-default</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. S-erg O-nom V-Sagr</td>
<td></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. S-erg O-nom V-Oagr</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>f. S-erg O-nom V-default</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>g. S-nom O-nom V-Sagr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. S-nom O-nom V-Oagr</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. S-nom O-nom V-default</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This re-ranking only affects the first input in (35). In the Hindi group, this input resulted in default agreement since both arguments were case-marked. In Gujarati, because express AGR is higher ranked, agreement with the accusative is less bad than default agreement and so candidate (b) wins. The first input listed in the Gujarati tableau is therefore the clause-type that requires our inventory of agreement constraints to permit agreement with a case-marked argument.

The other two types of inputs are unaffected by the re-ranking, and still select the highest nominative argument present for agreement.

Finally, Nepali also contradicts the nominative agreement pattern of the Hindi group by allowing agreement with the ergative. This violates the highest constraint in (33). But, this is still preferable to agreement with any type of object, hence the ranking shown in (36).
(36) Nepali, (Bengali)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg O-acc V-Sagr</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. S-erg O-acc V-Oagr</td>
<td>s!</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. S-erg O-acc V-default</td>
<td>s!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input: S O[no spec] V[perf]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. S-erg O-nom V-Sagr</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. S-erg O-nom V-Oagr</td>
<td>s!</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. S-erg O-nom V-default</td>
<td>s!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input: S O V[non perf]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. S-nom O-nom V-Sagr</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. S-nom O-nom V-Oagr</td>
<td>s!</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. S-nom O-nom V-default</td>
<td>s!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bengali falls in the same category as Nepali in terms of agreement but has no subject marking at all, so although the ranking in (36) is identical for Bengali agreement, candidates with nominative subjects would be the winners.

The only difference here between the Nepali/Bengali group and the other groups is that none of the case constraints on agreement outrank the grammatical function subhierarchy. One way of looking at this is that since overt subject case-marking in Nepali has not been reduced, the language has opted for an alternative path of markedness reduction by focusing on the markedness of object agreement.

Before turning to dialectal variation, let us first recapitulate the points covered by the analysis thus far. At the outset of this discussion, we showed that the MIA ergative, perfect construction had several universally marked features, such as case-marking on the subject, and verb agreement with the object. A formal model of two general strategies of reducing markedness along universal hierarchies has been provided for the range of NIA systems. The formal groupings of languages according to our analysis correspond to the cross-classification of the data in (16) and (17).

The analysis shows that the paths along which each ranking has moved essentially represents some trajectory of markedness reduction. In terms of subject marking, the gradual promotion of #STRUC above case marking constraints gives rise to unmarked subjects in Bengali and Marathi. Those languages which retain subject-marking in all three persons — Hindi, Gujarati, and Nepali — show markedness changes in agreement instead. The promotion of the faithfulness constraint EXPRESS AGR combined with universal hierarchies of agreement types leads to the emergence of unmarked patterns of either subject agreement or nominative agreement. In Hindi, agreement is restricted to the least marked case, the nominative; in Nepali, to the least marked grammatical function, the subject.

26
6 The Typology of Variation in Marathi Dialects

Thus far, we have discussed the typology of variation in case marking and agreement seen in the Indo-Aryan languages, which had a common ancestor in Middle Indo-Aryan. In this section, we demonstrate that one of the languages described above, Marathi, reflects the same typological variation within its dialects. However, two distinctions arise between the dialect typology and the language typology. First, certain micro-level typological predictions that are not found in the language data are attested in dialectal data.

Second, an outer bound is evident in the range of dialectal variation in Marathi. The dialects of Marathi discussed here derive from their historical ancestor, Old Marathi (1000-1400 AD). The variation observed in these dialects turns out to be constrained by the typological features of Old Marathi (OM). By contrast, the typological features of the Indo-Aryan languages already discussed above are constrained by the historical system from which they are derived (MIA).

In terms of agreement marking patterns, OM and MIA are identical; the verb agrees with the highest nominative argument. The crucial difference between the MIA and OM system is in the nominal paradigm of the ergative subject. The ergative (instrumental case marking) in the MIA system occurs throughout the nominal case paradigm and is distinct from the nominative in all cells of the paradigm. In OM, there is a syncretism between the ergative and the nominative marking of pronouns in the plural of the first and second person pronouns, just as in modern Gujarati. These morphologically nominative forms maintained abstract ergative-like behavior, as evidenced by oblique adjectival modification and agreement.

What the following data demonstrate, and what our analysis also predicts, is that the syncretism in the nominal paradigm of OM never reverts to a more differentiated or more MIA-like paradigm in any of its daughter dialects. In other words, variation occurs within the typological space afforded by the parent language with respect to the nominal paradigm. The dialectal variation in the nominal ergative paradigm is a result of the systematic promotion of the \textsuperscript{*}STRUC constraint over what its base position has been in OM. A fully distinctive subject-marking system like Hindi is not observed in any dialect of Marathi. This suggests that, even historically, the changes in these dialects can be explained by assuming a uni-directional promotion of the \textsuperscript{*}STRUC constraint. In the sections that follow, we examine the data from six dialects of Marathi.

6.1 The Dialect Data

A note on the nature of the dialectal data that we use is in order. Most analyses of modern Marathi deal with the standard variety of the language, which is a dialectal variety spoken in Pune. The data here is not based on independent fieldwork, but is culled from Volume VII of the Linguistic Survey of India (Grierson 1905), which is a volume devoted to the dialectal varieties of Marathi. The data in this survey is of three kinds:
• Skeletal grammars (1 page) of selected dialects, with full nominal and verbal paradigms in some cases.

• A set of sample words and sentences (averaging 300 per dialect) for each dialect, which have been elicited from respondents.

• A sample of continuous text in each collected dialect, which in most cases is the translation of 'The Parable of the Prodigal Son'.

The data available from this survey is sparse, and not always systematic. It has not been possible to obtain full paradigms of the verbal inflections in the domains discussed in this paper. However, the claims we make are based on either Grierson's observations for a particular dialect, or on the crucial data available in the limited textual material. The claims about nominal and verbal marking are based on the data in the sample texts, which yields a reasonably accurate picture of the inflectional paradigms under discussion.

This section discusses the dialectal data and points to the correspondences between these Marathi dialects and the Indo-Aryan languages that we discussed in §2 and §3.

6.2 Warhadhi Brahmani, Akola

This dialect is discussed first because it appears to be the most conservative when compared to the OM system of ergative morphology. This pattern is identical to the OM perfect paradigm, both in terms of subject marking and agreement.

In Warhadhi Brahmani, the morphological distinction between the ergative and the nominative case, is articulated in the following way in transitive, perfect clauses. The transitive, perfect subject is marked ergative in all three persons in the singular. However, in the plural, there is overt, ergative marking only in the third person. First and second person transitive subjects are identical to subjects in non-perfect clauses. This is illustrated in (37).

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
<td>plural</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>mi</td>
<td>ámi</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>myā</td>
<td>ámi</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tu</td>
<td>tumi</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tyā</td>
<td>tumi</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>to</td>
<td>te</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tyā-na</td>
<td>tyā-ni</td>
<td></td>
</tr>
</tbody>
</table>

Historically, the OM ergative paradigm showed syncretism in the same person-number configurations (ergative subjects in the plural, local person), which suggests that Warhadhi Brahmani has retained the archaic pattern while other languages have innovated in this domain.

In terms of the abstract pattern (i.e. not actual morphological exponent) this subject marking pattern is identical to the Gujarati synchronic subject
marking pattern and may be derived by the same ranking of subject marking constraints as in Gujarati. The agreement facts of this dialect are, however different from Gujarati, but identical to the OM pattern. The verb agrees with the nominative object, whether or not the subject shows overt ergative marking in the transitive, perfect clauses. If the object is marked accusative because of definiteness and animacy, the verb gets a default neuter agreement. This is illustrated in (38).

(38) a. myā devā-chyā kahyā-bahe tum-chyā
    I-ERG-SG God-GEN-SG against YOU-GEN-SG
    samor pāp kela āhe
    in front of SIN-NOM-SG DO-NOM-3-SG-PAST BE-3-SG-PRES
    ‘I have committed a sin against God and in front of you.’

b. tyā-na tyā-lā dukār chārāy-lā āplyā
    HE-ERG-SG HE-ACC-SG PIG-NOM-PL graze-INF self’s
    vāvā-āt dhād-lā.
    field-LOC-SG SEND-NOM-3-SG-PAST
    ‘He sent him in the field to graze pigs.’

In (38a), the verb agrees with the neuter sin and in (38b), the verb shows default neuter singular agreement, because the object is marked accusative. Agreement in Warhadhi Brahmani patterns exactly like agreement in standard Marathi (the Pune dialect), discussed in (13).

6.3 Kōkanī, Savantwadi

The paradigm for Kōkanī perfect and non-perfect transitive subjects is structurally identical to the Warhadhi Brahmani paradigm, although it is based on different morphological material. This paradigm is illustrated in (39).

(39)

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>hav</td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>haven</td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tu</td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>twen</td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>to</td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>ta-nen</td>
</tr>
</tbody>
</table>

The Kōkanī subject paradigm may also be derived from the exact ranking of constraints that derive the Gujarati and the Warhadhi Brahmani paradigm. The Kōkanī agreement pattern is distinct from the Warhadhi Brahmani pattern, and identical to the Gujarati pattern. In Kōkanī, the verb agrees with the nominative object in transitive, perfect clauses. But, unlike the other Marathi dialects, the verb does not show default agreement when the object is marked accusative. The verb, in spite of overt marking on the object, agrees with it.
In this kind of dialect then, case marking does not block agreement with the object, but it does block subject agreement, exactly like Gujarati. The following examples illustrate this agreement pattern.

(40) a. Haven tujhe utar mođ-le na
    1-ERG-SG you-GEN-SG word-NEU-NOM-SG break-NEU-3-SG-PAST NEG
    ‘I never broke your word.’ (disobeyed you.)

b. tā-ne ṭā-kā dukre dhārāk shet-āt dhād-lo
    he-ERG-SG he-ACC-SG pig-NOM-PL graze-Loc-SG send-MAS-3-SG-PAST
    ‘He sent him in the field to graze pigs.’

In (40a), the verb agrees with the nominative object, similar to other dialects like the Pune variety, and Warhadhi Brahmani. In (40b), the verb agrees with the accusative object, rather than showing default agreement. Other dialects which show agreement patterns as well as ergative marking similar to Kǒkāni include Chitpāvani and Kudāli dialects.

The pattern for Kǒkāni agreement, as we said earlier, is identical to the agreement pattern in Gujarati, and may be derived with the same ranking of agreement constraints.

6.4 Standard Marathi, Puṇe

This is the dialect of Marathi that has been the subject of most linguistic literature on Marathi, and it is also the dialect discussed in the earlier section. In the Puṇe dialect, first and second person subjects in perfect clauses do not receive any overt ergative marking and are morphologically similar to non-perfect nominative subjects. In the third person, however, subjects are marked with an overt case clitic. The paradigm for subject marking is identical to the one presented for Marathi in (12), repeated here for convenience.

(41)  

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>mś</td>
<td>śānśś</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>mś</td>
<td>śānśś</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tā</td>
<td>tūmśś</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tā</td>
<td>tūmśś</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>to</td>
<td>te</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tyā-ś-ne</td>
<td>tyā-ś-nī</td>
<td></td>
</tr>
</tbody>
</table>

As seen from (41), the Puṇe dialect does not have overt ergative marking in the first and second person. The verb, however, shows agreement only with the nominative object. The verb exhibits default neuter singular agreement when the object is marked accusative based on factors of definiteness or animacy. Examples are given in (42) repeated from (13).

(42) a. mī śītā-lā bagha-to
    I-MASC-NOM Sītā -FEM-ACC see -PRES-MASC-SG
    ‘I see Sītā.’
b. mī ek chīṃṭī baghīt-li  
I-MASC-ERG one sparrow-FEM-NOM see -PRES-FEM-SG  
‘I saw a sparrow.’

c. mī sīṭā-lā baghīt-la  
I-MASC-ERG Sīṭā -FEM-ACC see -PERF-NEUT-SG  
‘I saw Sīṭā.’

In (42b), the verb agrees with the nominative object, although the subject mī does not show overt case marking. In (42c), agreement with the object is blocked because of overt accusative marking on the object. This points out the fact that in spite of overt morphological syncretism with the nominative case, first and second person subjects in the Pune dialect bear ergative features, as opposed to the system in Dharwarī (discussed below), where they are nominative, triggering agreement.

6.5 Marheṭhi

Marheṭhi has an identical nominal case marking pattern as the Pune dialect, in that overt ergative case is present only in the third person. The paradigm for transitive perfect and non-perfect subjects in Marheṭhi is illustrated in (43).

(43)  
<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SINGULAR</td>
<td>PLURAL</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>mī</td>
<td>āṭī &amp; āṭīhī</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>mī</td>
<td>āṭīhī</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tū</td>
<td>tumī</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tū</td>
<td>tumī</td>
<td></td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>tīṭ-mi</td>
<td>te</td>
<td></td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tīṭ-mi</td>
<td>tīṭ-mī</td>
<td></td>
</tr>
</tbody>
</table>

The agreement pattern, however, differs from the Pune dialect in that the verb agrees uniformly with the subject. The relevant examples are given in (44).

(44) a. mī āṭhawarā-che iruddh āṇikh tūḍyā-sāmne  
I-ERG-MAS-SG God-GEN-SG against and you-in front of  
pāp  
sīn-NEU-NOM-SG do-MAS-1-SG-PAST  
‘I committed a sin against God and in front of you.’

b. tūn-che bāpā-ne chāṅga bhojan  
your father-MAS-ERG-SG good feast-NEU-NOM-SG  
ke-lā  
do-MAS-3-SG-PAST be-3-SG-PRES  
‘Your father has organized a good feast.’
In (44a), the verb agrees with the first person pronominal which is a non-overt ergative. In (44b), the verb agrees with the overtly ergative marked third person NP. This illustrates that the verb shows a uniform subject marking pattern regardless of overt case marking on the subject. This distinguishes Marhethi from the Pune dialect where non-overt ergative features on the subject prevent agreement with the subject.

This pattern of agreement is identical to the agreement pattern in Nepali, where ergative subjects do not block agreement. This pattern in Marhethi can be derived from the same constraint ranking for agreement as in Nepali, where AGR-SUB is ranked higher than AGR-NOM.

### 6.6 Gowari, Bhanḍara

Gowari has a nominal inflectional paradigm that is identical to the Pune dialect. First and second person subjects in transitive, perfect clauses are identical to non-perfect subjects, with no overt ergative marking. There is overt marking in the third person. The inflectional paradigm for Gowari is given below in (45).

\[
\begin{array}{|c|c|c|c|}
\hline
\text{ASPECT} & \text{PERSON} & \text{NUMBER} & \text{plural} \\
\hline
\text{Non-perf} & 1 & mś & āmś \\
\text{Perf} & 1 & mś & āmś \\
\text{Non-perf} & 2 & tū & tūmś \\
\text{Perf} & 2 & tū & tūmś \\
\text{Non-perf} & 3 & tū & tūmś \\
\text{Perf} & 3 & tū-tū & tūmś-tūmś \\
\hline
\end{array}
\]

The nominal paradigm for Gowari is identical to the paradigm of the Pune dialect, formally. However, morphologically similar transitive, perfect subjects in both these dialects trigger distinct agreement patterns. In the Pune dialect, the morphologically zero-marked transitive perfect subject in the first and second person does not trigger agreement, suggesting that it bears ergative features. In Gowari, on the other hand, the perfect subject in the first and second person triggers agreement, suggesting that it is indeed nominative, and identical morphologically as well as in terms of case features to its non-perfect counterpart.

The data in (46) illustrates this.

\[(46)\]

a. mś devā-javā tudjyaa-sāmmne pāp ke-lo.
I-NOM-SG God-near you-in front of sin-NEU-SG do-MAS-1-SG-PAST
‘I committed a sin near God and in front of you.’

b. mag tū-tū baapā-lā uttar di-lān.
then he-ERG-SG father-DAT-SG answer-NEU-NOM-SG give-NEU-3-SG-PAST
Then he gave an answer to his father.’

In (46a), the verb agrees with the first person subject which is unmarked for case. In (46b), however, the verb agrees with the nominative object, rather than the subject, because the subject is marked with ergative case.
6.7 Dharwari, Dharwar

Dharwari does not show any morphological distinction between perfect and non-perfect transitive subjects. There is no ergative marking on the transitive, perfect subject in any person. The Dharwari paradigm is shown in (47). While the pattern for full NPs is not illustrated in the data available, it must be noted that in all languages full NPs pattern exactly like the third person pronouns, in terms of ergative marking and agreement.

(47)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Person</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>nīr</td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>nīr</td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tīr</td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tīr</td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>to</td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>to</td>
</tr>
</tbody>
</table>

Dharwari shows agreement with the subject in person in perfect, transitive clauses, thus maintaining a nominative-accusative pattern of case and agreement marking in all its tenses and aspects. Examples are given in (48).

(48) a. mī tudjyā-śamor āṇī parlokā-che
I-NOM-SG you-in front of and heaven-GEN-SG

viruddhā pāp kelo.
against sin-MAS-NOM-SG do-MAS-1-SG-PAST

‘I committed a sin in front of you and against the heavens.’

b. tyāchā bāp āplī zindaṛ
his father-MAS-NOM-SG self's property-FEM-NOM-SG

vibhāg karūn dilā.
division-MAS-NOM-SG make-GERUND give-MAS-3-SG-PAST.

‘His father, having divided his property, gave it (to them).

In (48), the subject and the object are marked nominative in both clauses. The verb agrees with the subject, as in other non-perfect tenses and aspects. Dharwari shows a uniform pattern of agreement with the least marked case and function in transitive, perfect clauses. Formally, the nominal paradigm of the Dharwari dialect differs minimally from the Pune dialect, in that there is overt marking only in the third person. Nevertheless, there is an important syntactic difference between the case features borne by the zero-case marked transitive, perfect, first and second person subjects in these dialects. First and second person perfect subjects in Dharwari trigger agreement, as is seen in (15), while in the Pune dialect, the verb shows agreement with the nominative object.

Another dialect showing similar nominal marking and agreement patterns to Dharwari, is Halbi, a dialect spoken in the Bastar region. It is interesting to see that the nominal inflectional paradigm, inspite of being based on very
different morphology patterns the same way. The nominal paradigm for Halbi transitive subjects in perfect and non-perfect clauses is given below in (49).

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Aspect} & \text{Person} & \text{Number} & \text{Singular} & \text{Plural} \\
\hline
\text{Non-perf} & 1 & mui & hami & \\
\text{Perf} & 1 & mui & hami & \\
\text{Non-perf} & 2 & tui & tui & \\
\text{Perf} & 2 & tui & tui & \\
\text{Non-perf} & 5 & hun & hun-man & \\
\text{Perf} & 3 & hun & hun-man & \\
\hline
\end{array}
\]

The pattern for Dharwari and Halbi dialects, as we have described it, is identical to the pattern for Bengali. Like Bengali, these dialects do not mark ergativity in the perfect aspect. This absence of morphological ergativity, moreover, must be understood as an innovation, because Old Marathi, the immediate ancestor of these dialects did exhibit ergative morphology. This innovation then, like Bengali, involves the reduction of the markedness of the ergative clause by the denotation of markedness constraints with respect to *STRUC. The transitive, perfect clause, similar to the transitive, imperfect clause does not have an ergative subject argument. Agreement with the subject does not violate any high-ranking constraint on agreement with the nominative argument, thus leading to uniform agreement with subject across the paradigm.

7 Cross-Classification of the Marathi Dialects

The dialect data discussed indicates that, while each dialect of Marathi does not show a perfect correspondence with one of the Indo-Aryan languages we discussed, in terms of both subject marking and agreement, there are correspondences with respect to these patterns taken separately. These correspondences are shown in the following table. While there is no a priori reason for defining the agreement and subject marking patterns of the dialects in terms of those of the languages under discussion, we have chosen to express these in that way because the range of subject marking patterns in the languages is wider than that of the Marathi dialects.

\[
\begin{array}{|c|c|c|}
\hline
\text{Dialect} & \text{Pattern} & \text{Subject Marking} & \text{Agreement} \\
\hline
\text{Warhadi Brahmami} & \text{Gujarati} & \text{Marathi} & \\
\text{Korkani} & \text{Gujarati} & \text{Gujarati} & \\
\text{Pune} & \text{Marathi} & \text{Marathi} & \\
\text{Gowari} & \text{Marathi} & \text{Marathi} & \\
\text{Marithe} & \text{Marathi} & \text{Nepali} & \\
\text{Dharwari} & \text{Bengali} & \text{Bengali} & \\
\hline
\end{array}
\]

From the data, it can be seen that the dialects discussed may be classified in different ways according to their agreement and subject marking patterns.
7.1 Subject Marking

The subject-marking patterns are summarized in the table in (51). Dharwari has no ergative case on transitive, perfect subjects. Marathi, Gowari, and Marhethi pattern in the same way with regard to their subject marking, with overt ergative case in only in the third person. Warhadhi Brahmani and Kōkani pattern similarly in that they have a more articulated morphological distinction between the ergative and the nominative case through the paradigm. However, they show differing patterns in agreement marking.

The main difference from the typological range earlier in (16) is the lack of a system that marks the ergative subject overtly in all three persons and numbers, as in Hindi, Nepali, and MIA. The most articulated subject-marking system is the Gujarati-like system of Warhadhi Brahmani and Kōkani, and since this was also the system of OM, it imposes the outer limit of subject-marking possibilities for the dialects.

<table>
<thead>
<tr>
<th>SUBJ</th>
<th>MKG</th>
<th>Dharwari</th>
<th>Pune</th>
<th>Gowari</th>
<th>Marhethi</th>
<th>WB</th>
<th>Kōkani</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-SG</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>√</td>
<td>√</td>
<td>0</td>
</tr>
<tr>
<td>1-PL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2-SG</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>√</td>
<td>√</td>
<td>0</td>
</tr>
<tr>
<td>2-PL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3-SG</td>
<td>0</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>3-PL</td>
<td>0</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

7.2 Agreement Marking Typology

Those dialects which group together with respect to subject marking patterns are not necessarily the ones showing similar agreement marking properties. This is summarized in the table in (52).

<table>
<thead>
<tr>
<th>AGREEMENT</th>
<th>Dharwari</th>
<th>Pune</th>
<th>Gowari</th>
<th>Marhethi</th>
<th>WB</th>
<th>War.Brah.</th>
<th>Kōkani</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgrS [nom]</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AgrS [non-nom]</td>
<td>0</td>
<td>0</td>
<td>√</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AgrO [nom]</td>
<td>0</td>
<td>√</td>
<td>0</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>AgrO [non-nom]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>√</td>
</tr>
</tbody>
</table>

Note again that case-marking and agreement patterns do not classify uniformly across all dialects, but rather cross-cut between dialects. The most important addition to the earlier range in (17) is that of Gowari. While its subject-marking system is identical to the Pune or standard Marathi dialect, its agreement system indicates that the null-marked local person subjects are actually treated as true nominatives and thus show agreement.

---

The precise features of the unmarked first and second person will be discussed later.
8 OT Analysis of Dialectal Variation

Using the constraints presented in §4 and §5, we can account for the parallel patterns of variation in subject-marking patterns within Marathi dialects. In (53) we show the ranking of these constraints, along with the dialect system in which they are actually instantiated. The possibilities that are not found within Marathi dialects have been instantiated by other languages.

(53)

\[ \begin{align*}
    \ast Su/3 & \land \ast \phi_c & \leftarrow \ast \text{STRUC} & \text{[Dharwari, Halbê]} \\
    \ast \text{SYNC} \land \ast \text{SG} & \leftarrow \ast \text{STRUC} & \text{[Pune, Gowari, Marhethi]} \\
    \ast Su LOC & \land \ast \phi_c & \leftarrow \ast \text{STRUC} & \text{[Kôkañi, Warhadhi Brahmana]} \\
    \ast Su LOC & \land \ast \phi_c & \leftarrow \ast \text{STRUC} & \text{[Hindi]}
\end{align*} \]

The constraints on perfect subjects may not be blindly reranked as they are based on universal hierarchies, but may only be reranked with reference to \ast \text{STRUC} and \ast \text{SYNC} \land \ast \text{SG}.\textsuperscript{15} The ranking in (53) illustrates that markedness constraints on subject marking are progressively demoted below \ast \text{STRUC} – partially in Kôkañi and Standard Marathi and completely in Dharwari – allowing the universal avoidance of overt subject marking to emerge.

8.1 Subject-marking in Marathi Dialects

As the table in (50) showed, many of the dialect systems here are identical to unrelated language systems seen earlier; for these cases, we do not reproduce tableaus but rather direct the reader to the rankings previously shown.

In terms of subject-marking, the Dharwari and Halbê dialects are identical to the Bengali system; Pune and Marhethi are identical to the standard Marathi system; and Kôkañi and Warhadhi Brahmana are identical to Gujarati. The tableau in (54), however, has not been seen earlier as none of the languages surveyed showed this system. In Gowari, the order of the two faithfulness constraints is switched, with \ast CS-FS being high-ranked and \ast \text{FAITH-LEX} \_ \text{perf} being lower. As a result, Gowari does not retain abstract ergative case aside from when it is driven by overt morphology.

\textsuperscript{15}The only other system that a reranking of this constraint set predicts is a system in which \ast \text{SYNC} \land \ast \text{SG} is ranked above \ast \text{STRUC} and \ast Su/3 & \ast Su/PERF & \ast \phi_c.\textsuperscript{16} This will generate a case-marking pattern which marks only singular subjects and not plural ones. We have not come across any example of this type of ergative marking in our research on these dialects and languages.
8.2 Agreement in Marathi Dialects

Again, much of the dialectal agreement rankings are identical to earlier systems in the linguistic typology. Dharwari and Halbi pattern like the Bengali and Nepali agreement systems that were seen in (36); they have the simplest agreement system with no ergative subject case to interact with subject agreement.16 The ranking shared by the Pune and Warhadhii Brahmani dialects are the same as were seen in (34) for Standard Marathi. These dialects allow agreement with either subject or object, as long as its case is nominative. The tableau is repeated in (55) for purposes of comparison with the Gowari tableau that follows.

---

16Although we do not treat the issue of dative experiencer subjects here, Dharwari does have dative subjects, which do not permit agreement. Thus, the complete set of agreement constraints for Dharwari would in fact require reference to cases and would therefore more closely resemble (55).
(55) Pune and Warhadhi Brahmani

<table>
<thead>
<tr>
<th>Input: S O(spec) V(perf)</th>
<th>nuc/AGR</th>
<th>exp/AGR</th>
<th>%nu/AGR</th>
<th>%nom/AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg O-acc V-Sagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>b. S-erg O-acc V-Oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>c. S-erg O-acc V-oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input: S O(nonspec) V(perf)</th>
<th>nuc/AGR</th>
<th>exp/AGR</th>
<th>%nu/AGR</th>
<th>%nom/AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. S-erg O-nom V-Sagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>e. S-erg O-nom V-Oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>f. S-erg O-nom V-oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>g. S-nom O-nom V-Sagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>h. S-nom O-nom V-Oagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>i. S-nom O-nom V-oagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
</tbody>
</table>

While the ranking of agreement constraints for Gowari is the same as that for Pune and Warhadhi Brahmani, the input is differently derived. Unlike the Pune dialect, unmarked local, perfect subjects in Gowari are nominative and trigger agreement. The input for Gowari clauses, thus differs substantively from the Pune dialect. The effect of this on agreement is shown in (56). (The differences are noted in the input specifications.)

(56) Gowari

<table>
<thead>
<tr>
<th>Input: S[3rd] O(spec) V(perf)</th>
<th>nuc/AGR</th>
<th>exp/AGR</th>
<th>%nu/AGR</th>
<th>%nom/AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. S-erg O-acc V-Sagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>b. S-erg O-acc V-Oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>c. S-erg O-acc V-oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input: S[3rd] O(nonspec) V(perf)</th>
<th>nuc/AGR</th>
<th>exp/AGR</th>
<th>%nu/AGR</th>
<th>%nom/AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. S-erg O-nom V-Sagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>e. S-erg O-nom V-Oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>f. S-erg O-nom V-oagr</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
</tr>
<tr>
<td>g. S-nom O-nom V-Sagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>h. S-nom O-nom V-Oagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>i. S-nom O-nom V-oagr</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
</tr>
</tbody>
</table>

The crucial difference between the Pune system in (55) and Gowari in (56) is that true nominative subjects may be inputs in the Gowari perfect clause, if these subjects are local. These subjects then trigger agreement exactly like non-perfect nominative subjects.
The pattern of nominative agreement in (55) and (56) can be described as a simple contrast between nominative and non-nominative arguments, without appealing to finer case distinctions. However, as discussed in §6.3, Kõkani allows object agreement in contexts where both the subject and the object are overtly case marked. Ergative agreement never occurs, but accusative agreement is permitted, just as in Gujarati. Here, subjects are not preferred over objects for agreement, as might be predicted by the ranking in (32). Rather, finer agreement distinctions are made for different cases in Kõkani. Thus, the only difference between agreement in the Pune and Kõkani dialects is the demotion of *ACC/AGR in Kõkani. The result is identical to Gujarati in (35) and is not repeated here.

Finally, Marhethi also contradicts the nominative agreement pattern of the Pune dialect prototype by allowing agreement with the ergative. This violates the highest constraint in (33), but is still preferable to agreement with any object, resulting in the same ranking as Nepali and Bengali in (36).

To summarize, a majority of the Marathi dialect data shows an exact mirroring of the systems that were seen in the earlier typology of NIA languages. Two main differences arose in the typology of Marathi dialects as compared with that of the NIA languages.

a. No dialect of Marathi exists that has a completely distinctive paradigm of overt ergative subject marking in the perfect clause, as Hindi does, for instance. This is because the parent language, OM, had already reached an early stage of markedness reduction in the ergative clause. OM had a syncretism between the ergative and the nominative marking of first and second person plural pronouns; this syncretism is never ‘undone’ in a later dialect, to give a more differentiated system.

b. Gowari fills a typological gap that is predicted by our earlier analysis, namely morphologically-driven nominative case for local subjects (or, in other words, loss of abstract ergative along with loss of the morphological case-marking).

9 The Diachronic Perspective

The language and the dialectal data discussed above reveal almost uniform patterns of what we term ‘markedness reduction.’ The emerging typology of the linguistic systems of the languages examined, is constrained and converges on relatively transparent strategies for reducing markedness of paradigms. We believe that these strategies are also interesting from a diachronic perspective, in that they provide empirical evidence for directionality of linguistic change. It is beyond the scope of this paper to account for the diachronic trajectory of each of these languages in a formal model.

The typology of variation in the dialectal data, for the most part mirrors the variation typology found in the language data, especially in the agreement patterns. However, in the ergative nominal paradigm, Marathi dialects fail to
show the same range of variation. Specifically, a particular constraint ranking, viz. that in which *STRUC is ranked below all the markedness constraints (the ranking deriving Hindi and Nepali perfect subject marking) is not found in the dialects we discuss. Moreover, this ranking and the resultant paradigm (with overt ergative marking on all members of the nominal paradigm) is not found in any of the dialectal data that Grierson (1905) discusses.

The gap in this factorial typology would appear to be accidental if we fail to notice a crucial fact. All the dialects of Marathi, it would be reasonable to assume, emerge from (some variant of) Old Marathi. The nominal paradigm of Old Marathi does not have overt marking on all ergative subjects. There is syncretism in ergative marking in the plural pronouns of the first and second person. None of the dialects of Marathi alter the constraint ranking that derives the Old Marathi paradigm so as to reduce this syncretism in number. In other words, no dialect of Marathi changes to become more like Hindi or Nepali; or no dialect of Marathi demotes *STRUC below the markedness constraint, *Su/loc & *φc. In the empirical data that we see and possibly diachronically, the *STRUC constraint progressively demotes the markedness constraints on nominal paradigms. There is no corresponding dialect with promotion of markedness constructions over the *STRUC constraint. This points to a progressive linguistic change in one direction towards an unmarked nominal paradigm. This unidirectional change in constraint ranking is intuitive historically, but can only be looked at as an arbitrary set of events in OT, since OT precludes any inherent directionality in constraint ranking and organization.

Historically, the earliest ancestor of the modern ergative construction (MIA) was morphologically similar to the modern Hindi construction with ergative marking in the entire person-number nominal paradigm. The Old and Middle Marathi construction (1200-1800 AD) showed a pattern similar to the Kōrā- Warhadli Brahmani pattern, where *STRUC demotes the constraint on local perfect subjects. The Pune dialect represents a further stage where *STRUC demotes the *SYNCRET/SG constraint. Dharwār and Halbi represent a later stage in the dialect, where *STRUC has demoted all the markedness constraints.

Three stages along this path of change can definitely be reconstructed within the diachronic path of the standard (Pune) dialect of Marathi. The fourth stage, total loss of ergativity is to be seen in Dharwār, and can probably be analyzed as a further stage arising from the same trajectory, that the standard dialect has not yet undergone.

The following figure is the same as (25) in §4, but is expressed as a diachronic path rather than a synchronic, typological distribution. It also indicates the role of the change in syncretism patterns within the broader system.
(57) 

\*Su/3 & \*\phi_c \leftrightarrow \#STRUC \quad [Dharwari, Halbí]

\*SYNCRET /SG \leftrightarrow \#STRUC \quad [Standard Marathi (Pune) (1800-now)]

\*Su/loc & \*\phi_c \leftrightarrow \#STRUC \quad [Old Marathi (3000-1800 AD)]

\*Su/loc & \*\phi_c \leftrightarrow \#STRUC \quad [Middle Indo-Aryan (600-800 AD)]

This ranking of constraints, considered as a diachronic path, suggests the expectation that periods of categorical constraint ranking are interspersed with periods of variable constraint ranking. This expectation is borne out by the older data for the Pune dialect shown in (58).

The data that was given for the Pune dialect in §6.4 was not taken from Grierson (1905) but rather was data from the contemporary dialect. Grierson’s sample grammar and text, by contrast, show that the nominal case-marking pattern in the Pune dialect was different from the contemporary variety that was given in §6.4. At the time of Grierson’s writing (1905), the Pune dialect had overt marking on singular, local person transitive, perfect subjects. These overtly marked subjects were in variation with the non-overtly marked subjects. The variable paradigm of Marathi (Grierson 1905) is given below.

(58)

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>PERSON</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
<tr>
<td>Non-perf</td>
<td>1</td>
<td>mť</td>
</tr>
<tr>
<td>Perf</td>
<td>1</td>
<td>mṛ, mṛ́</td>
</tr>
<tr>
<td>Non-perf</td>
<td>2</td>
<td>tṛ</td>
</tr>
<tr>
<td>Perf</td>
<td>2</td>
<td>tṛ́, tvṛ́</td>
</tr>
<tr>
<td>Non-perf</td>
<td>3</td>
<td>to</td>
</tr>
<tr>
<td>Perf</td>
<td>3</td>
<td>tṛṛ-ni</td>
</tr>
</tbody>
</table>

In the modern Pune dialect, unlike the system above, only the syncretized (forms identical to the non-perfect nominative subject) are in use. This suggests that a competition between forms in standard Marathi has given way to the loss of the more marked form, and the generalization of the syncretized form. While we do not attempt to model it here, this variation and consequent loss of the more marked form can be expressed formally using Stochastic Optimality Theory. Recent work in this stochastic version of Optimality Theory (see Boersma and Hayes 2001, Asudeh 2001, Bresnan and Deo 2001, Lee 2001b, among others) has formalized various aspects of optionality, variable constraint ranking, and diachronic predictions.

Finally, it is interesting that the ranking which yields the typological variation in nominal paradigms also yields a reconstructible diachronic path along which a language developed. Dialectal data has been often used in internal reconstruction, together with historical data, in order to determine paths of change in specific domains of language change. The dialectal data we examined
in this paper also sheds some light on the process of change from the ergative clause to an active, non-ergative one. Crucially, it points to the relation between typology and linguistic change, that may be explored fruitfully within an OT framework, though it is not within the domain of this paper to do so.

10 Conclusion

The ergative construction in modern NIA has been too often analyzed as a homogenous construction of the classic sort; the variety of morphological variation under this rubric has been for the most part disregarded. To attribute to Indo-Aryan languages an across-the-board ergativity of this kind is to ignore a larger range of data that, according to us, points to the emergence of unmarked case and agreement systems. In this paper, we have brought out the characteristic patterns of variation within the nominal and verbal ergative paradigms in a range of Indo-Aryan languages, and derived them from a universal and functionally motivated set of constraints. An important insight of this paper is the partial independence of case-marking and agreement systems in many of the languages discussed. Deriving nominal and verbal paradigms with independent sets of constraints, rather than treating agreement as a corollary of case, appears to be the most intuitive way of dealing with these data. The morphological facts of Marathi dialects strengthened evidence for the observation that inter-dialectal variation mirrors typological variation, and is derivable by the same set of constraints. Finally, the limits on variation found in the NIA typology and more clearly in the Marathi dialect data suggests a uniform directionality in markedness reduction, and allows a consideration of the data from a diachronic perspective. This suggests the intuitive consequence that the same set of constraints can provide a diachronic account of the linguistic changes and synchronic differences in nominal and verbal ergative morphology.

References


