

## PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is an author's version which may differ from the publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/41089>

Please be advised that this information was generated on 2021-06-18 and may be subject to change.

## Case-Marking Strategies

Helen de Hoop  
Andrej L. Malchukov

Two strategies of case marking in natural languages are discussed. These are defined as two violable constraints whose effects are shown to converge in the case of differential object marking but diverge in the case of differential subject marking. The discourse prominence of the case-bearing arguments is shown to be of utmost importance for case-marking and voice alternations. The analysis of the case-marking patterns that are found crosslinguistically is couched in a bidirectional Optimality Theory analysis.

*Keywords:* case, voice, bidirectional Optimality Theory, animacy, definiteness

### 28 29 **1 Introduction**

30 Transitive predicates come with a first (higher) and a second (lower) argument in their argument  
31 structure. We will refer to these arguments quite loosely as the subject and the object, respectively,  
32 but we are aware that the labels *subject* and *object* may not be appropriate in all contexts, depending  
33 on how they are actually defined.

34 In many languages, ergative and accusative case are assigned only or mainly in transitive  
35 sentences, while in intransitive sentences they are usually not assigned (Burzio 2000). In that  
36 sense, we may call ergative and accusative “dependent” cases, following Marantz (1991), since  
37 ergative and accusative crucially *depend on* the presence of another (core) argument (direct object  
38 and subject, respectively) in the clause. Unlike nominative case, which is closely connected to  
39 the grammatical function of subject and which can combine with different thematic roles, ergative  
40 and accusative case are thematically more restricted in that they are mainly used for agents and  
41 patients, respectively (a well-known exception is the assignment of accusative case in exceptional  
42 case-marking constructions). This cannot be reversed, since agents of intransitive sentences do  
43 not receive ergative case in many languages, nor do intransitive subjects that fulfill the role of  
44 patient receive accusative usually (although exceptions exist, as will be exemplified below).

45 In Chomsky 1981 and subsequent work, a notion of abstract case (usually referred to as  
46 *Case*) is used in connection with the inviolable Case Filter, which requires every lexically realized  
47 DP to bear case. In languages that have little or no case morphology, lexically realized DPs  
48 without case apparently violate the Case Filter. However, the postulation of abstract Case would  
49 guarantee DPs in structural case positions to be saved from the Case Filter. In this article, we  
50 take an Optimality Theory perspective (Prince and Smolensky 2004). Therefore, we assume that  
51 linguistic constraints such as the Case Filter are violable in nature. Hence, we do not need the  
52 notion of abstract Case. Some level of abstraction may still be needed, but in the absence of  
53 explicit evidence we simply assume that “what you see is what you get.” Thus, we interpret the  
54 absence of morphological case marking as the absence of case (Aissen 1999, 2003). This also  
55 means that what is referred to as *nominative* case, or in other contexts *absolutive*, can sometimes  
56 be viewed as the absence of case. This holds, for example, for the nominative case-marked subject  
57 in Hindi in (1), but not for the nominative case-marked subject in Japanese in (2).

58 (1) Raam- $\emptyset$  ek bakre-ko bectaa hae.  
59 Ram-NOM one goat-ACC selling is  
60 ‘Ram sells the goat.’

61 (2) Boku-ga tomodati-ni hana-o ageta.  
62 1SG-NOM friend-DAT flowers-ACC gave  
63 ‘I gave flowers to my friend.’

64 In (1), the name *Ram* is glossed as being in the nominative, even though there is no such thing  
65 as a nominative marker in Hindi. That is, the proper noun in (1) is in its unmarked, uninflected  
66 form. By contrast, there is a clear case marker, *-ko*, on the direct object in (1). The uninflected  
67 word form is called nominative, but in fact, nominative case in Hindi can be viewed as the absence  
68 of case. By contrast, the nominative case in Japanese is expressed by a real case marker, and  
69 therefore we cannot equate nominative case with the absence of case in Japanese, unless the case  
70 marker is dropped, as often happens in colloquial speech (Fry 2001, Lee 2002).

71 In ergative case systems, the absolutive case is often unmarked, and we will similarly assume  
72 that in the absence of morphological case marking, absolutive case is in fact the absence of case  
73 as well. This is illustrated in sentence (3) from Yup’ik.

74 (3) Angut-em tangrraa arnaq- $\emptyset$ .  
75 man-ERG sees woman-ABS  
76 ‘The man sees the woman.’

77 A well-studied paradigm in the domain of case is differential object marking: in many languages,  
78 objects higher in animacy or definiteness are case-marked, while lower ones are not (Bossong  
79 1985, Aissen 2003). In Turkish, for example, specific objects are marked with accusative case,  
80 while nonspecific objects remain caseless (Enç 1991).

81 (4) Ali bir kitab-ı aldı.  
82 Ali one book-ACC bought  
83 ‘Ali bought a certain book.’

84 (5) Ali bir kitap aldı.  
85 Ali one book bought  
86 ‘Ali bought some book or other.’

87 An explanation of differential object marking in terms of markedness is proposed by Aissen  
88 (2003). In a canonical transitive construction, the object is lower than the subject in animacy/  
89 definiteness. Thus, when the object is animate/definite, it is *marked* (for an object), which means  
90 it should be (case-)marked as well. If differential subject marking mirrored differential object  
91 marking, then we would also expect inanimate and indefinite subjects (which are more “ob-  
92 jectlike”) and hence *marked* for a subject) to be case-marked, rather than typical (animate, definite)  
93 subjects. This prediction is actually borne out in some languages, such as Qiang (a Tibetan  
94 language), where the subject in a transitive clause takes agentive case only when it is inanimate  
95 (Lapolla 2003).

96 (6) MoVu-wu qa datuəZ.  
97 wind-AGT 1SG knocked.down  
98 ‘The wind knocked me down.’

99 In fact, though, such examples are rare. More often, differential subject marking manifests itself  
100 in a split between nouns and pronouns or as a function of clausal features such as tense/aspect/  
101 mood. Also, as shown in various contributions to de Hoop and de Swart 2008 show, sometimes  
102 the pattern seems to be the opposite of the one in Qiang, such that case marking is required on  
103 the typical (agentive, volitional) subjects rather than on the atypical ones. In general, while differ-  
104 ential object marking is rather robust in that it is always the more prominent (animate, definite)  
105 object that is case-marked, there is much more variation in the patterns of differential subject  
106 marking found crosslinguistically (see Malchukov 2007, de Hoop and de Swart 2008). In this

107 article, we will account for this striking difference concerning the two types of case alternation,  
108 differential object and subject marking.

109 Another generalization that we will account for, basically following Malchukov (2006), is  
110 that passives are found mostly in nominative-accusative languages, while antipassives are found  
111 mostly in ergative languages. We will argue that this is linked to another crosslinguistic observa-  
112 tion, namely, that differential object marking is found mostly in nominative-accusative languages  
113 while differential subject marking is found mostly in ergative languages. We will show that these  
114 widely attested patterns can be explained in terms of an interplay among different types of universal  
115 constraints in the domain of case marking.

## 116 2 Two Basic Functions of Case Marking

117 The main hypothesis we wish to explore in this article is that, following functional-typological  
118 insights, two basic functions of case marking can be distinguished, the *identifying* function and  
119 the *distinguishing* one (Mallinson and Blake 1981, Kibrik 1985, Comrie 1989, Song 2001).  
120 Roughly, while the identifying function encodes internal properties of the arguments, the distin-  
121 guishing function crucially depends on the relation between the arguments.

122 The identifying strategy makes use of case morphology to encode specific semantic/pragmatic  
123 information about the nominal argument in question. We say that case morphology is used to  
124 identify semantic or pragmatic properties. Lexical (inherent, oblique) as well as semantic cases  
125 are obvious examples of the identifying strategy (Butt and King 2003, 2004), but the identifying  
126 function of case is not restricted to lexical or semantic cases. In fact, structural or grammatical  
127 cases identify some semantic/thematic properties to a certain degree as well. For example, struc-  
128 tural accusative case in direct object position can be argued to identify patienthood. In some  
129 languages, dative is a structural case as well, yet it is clearly associated with thematic roles such  
130 as goal and experiencer. Ergative case is associated with “true” agents in many languages. In  
131 Manipuri, for example, the ergative case on the agent in (7) marks high agentivity (the agent is  
132 in control, volitional), while a decrease in agentivity is signaled by the lack of ergative case in  
133 (8) (Bhat and Ningomba 1997).

134 (7) əy-nə tebəl-də theŋgi.  
135 I-ERG table-LOC touched  
136 ‘I touched the table (volitionally).’

137 (8) əy tebəl-də theŋgi.  
138 I table-LOC touched  
139 ‘I touched the table (involuntarily).’

140 In Manipuri, all and only true agents receive ergative case. This holds for both transitive and  
141 intransitive agents. Thus, one can say that ergative case in Manipuri identifies agentivity. We  
142 introduce a general constraint stating that ergative case identifies *strong subjects* (which we will  
143 designate as *A*). The notion *strength* that is used in (9) will be elaborated on in section 3.

144 (9) IDENTIFY (*A/ERG*)  
145 Ergative case identifies strong subjects ( $A \leftrightarrow \text{ERG}$ ).

146 A more general constraint can be formulated as follows:

147 (10) IDENTIFY  
148 Encode internal argument properties.

149 IDENTIFY must be conceived of as a family of constraints and not a single constraint. Clearly, the  
150 constraint in (9) can be taken as one instantiation of this constraint.

151 The distinguishing strategy is a more specific strategy that is used for distinguishing between  
152 the two core arguments of a transitive clause, that is, the subject and the object. The intuition  
153 behind the distinguishing function is quite clear. When a two-place predicate  $R(x,y)$  is used to  
154 describe an event involving two participants, usually an agent and a patient, it is of utmost  
155 importance to know which noun phrase corresponds to the first argument  $x$  (the agent) and which

156 to the second argument *y* (the patient). For this purpose, case can be used to mark one of the  
 157 arguments. If one argument is case-marked, this already suffices for the purpose of disambiguation.  
 158 Thus, from the distinguishing perspective, there is no need to case-mark both arguments. Neither  
 159 would it be necessary to case-mark the one and only argument of a one-place (intransitive)  
 160 predicate. Indeed, it has been argued that in many nominative-accusative case systems only the  
 161 *y* is case-marked (with accusative case) while the *x* remains morphologically unmarked. This  
 162 view accords with our assumption presented above. When nominative case is the unmarked  
 163 (uninflected) case form, we interpret it as the absence of case. Similarly, in pure ergative-absolutive  
 164 systems only the *x* is case-marked, while the *y* remains morphologically unmarked (absolutive).  
 165 The single argument of an intransitive verb is unmarked as well, and although it is labeled  
 166 absolutive or nominative, it can often be seen as lacking case as well.

167 While Manipuri is an example of a radically identifying language, there are also languages  
 168 that can be characterized as radically distinguishing. In Awtuw, the object is obligatorily marked  
 169 with accusative case if the object is as high as or higher than the subject in the animacy hierarchy  
 170 (Feldman 1986).

171 (11) Tey tale-re yaw dæli.  
 172 3FEM.SG woman-ACC pig bit  
 173 ‘The pig bit the woman.’

174 (12) Tey tale yaw dæli.  
 175 3FEM.SG woman pig bit  
 176 ‘The woman bit the pig.’

177 In Fore, a Papuan language, it is the subject that is marked with ergative case if the object is  
 178 higher in the animacy hierarchy than the subject (Scott 1978).

179 (13) Yagaa-wama wá aegúye.  
 180 pig-ERG man hit  
 181 ‘The pig hits the man.’

182 (14) Yagaa wá aegúye.  
 183 pig man hit  
 184 ‘The man hits (or kills) the pig.’

185 In (14), the man is higher in the animacy hierarchy than the pig, and that is why ‘man’ is interpreted  
 186 as the subject, even though the canonical SOV word order is overruled. If two arguments are  
 187 equal in the animacy hierarchy in Fore, word order becomes decisive and the first argument is  
 188 interpreted as the subject. But if the speaker wants to express that the pig hit the man, then the  
 189 nonhuman subject must be explicitly marked as the subject (as in (13)). Note, by the way, that  
 190 ergative marking becomes dispensable if the arguments are disambiguated via verbal agreement.  
 191 According to Foley (1986:173), this means that verbal (agreement) morphology takes priority  
 192 over nominal (case) morphology as a means of disambiguation. Crosslinguistically, a merely  
 193 distinguishing function of case is rare. This could be explained by the fact that there are alternative  
 194 strategies for disambiguating the two arguments of a transitive predicate, such as the use of subject  
 195 agreement, word order restrictions, context, and/or intonation (Keenan 1978, Bouchard 2001, de  
 196 Hoop and Lamers 2006). For example, as noted above, when in Fore the two arguments are equal  
 197 in animacy, word order alone determines what is the subject and what is the object: the first noun  
 198 phrase is then interpreted as the subject.

199 The distinguishing function of case can be characterized as a global constraint as in Fore  
 200 (i.e., the relative animacy of subject and object is measured) or as a local one as in classical cases  
 201 of markedness effects in differential object marking, where for instance the animacy or definiteness  
 202 of the object is evaluated independently of the animacy or definiteness of the subject (see de  
 203 Swart 2006 for more discussion and more examples of global distinguishability). To put the  
 204 general motivation behind this type of case marking, whether locally or globally applied, in terms  
 205 of a constraint (de Swart 2006, de Hoop and Lamers 2006):

206  
207

(15) *DISTINGUISHABILITY*

The two arguments of a transitive clause should be distinguishable.

208 Case marking is a way to distinguish between the subject and the object and hence to satisfy  
209 *DISTINGUISHABILITY*. If the subject and the object are otherwise distinguishable (as when in Fore  
210 the subject outranks the object in animacy), then case marking is not necessary to satisfy this  
211 constraint. However, if the object is more “subjectlike” (absolutely or relatively)—that is, if it  
212 equals the (general or actual) subject in animacy/definiteness—the subject and the object can no  
213 longer be distinguished on the basis of these animacy/definiteness properties. In order to satisfy  
214 *DISTINGUISHABILITY* and to avoid *potential* ambiguity, case marking can apply.

215 Obviously, the identifying and distinguishing functions are not entirely separate, but overlap  
216 considerably. In fact, if case is systematically used to identify the subject or the object in a  
217 transitive clause, then of course differentiation comes “for free.” Therefore, case systems that  
218 are completely based on the function of identification must be richer in case morphology than  
219 the mainly distinguishing ones. As we will show, however, both functions are needed to account  
220 for the various case-marking patterns found across languages.

221 **3 A Bidirectional Optimality Theory Approach to Case Marking**

222 Crosslinguistically, the strength of nominal constituents seems to influence case marking (e.g.,  
223 de Hoop 1996). As pointed out by de Hoop and Narasimhan (2005), arguments that are definite  
224 and animate can be seen as stronger, as more prominent in the discourse, or as typical full-fledged  
225 arguments, independent of whether they are the subject or the object of a transitive clause. This  
226 is also clear in the account of Legendre, Raymond, and Smolensky (1993), who emphasize the  
227 role of discourse prominence for case marking and use Optimality Theory (OT) constraints such  
228 as “High-prominence arguments receive subject case marking” and “Low-prominence arguments  
229 do not receive subject or object case marking.” Thematic properties contributing to agentivity  
230 or patienthood of the core arguments also seem to contribute to an argument’s strength (Dowty  
231 1991). Importantly, different perspectives on the strength of DPs point in the same direction:  
232 animate and specific DPs are usually highly prominent in the discourse, and they are also often  
233 realized as real syntactic arguments (hence qualify as better agents and patients). We will refer  
234 to these DPs as *strong* DPs in the remainder of this article, basically following de Hoop and  
235 Narasimhan (2005).

236 Note by the way that this notion of strength for arguments differs only slightly from the  
237 notion of strength used in de Hoop 1996 to account for the role of DP semantics in (abstract)  
238 differential case marking. De Hoop focuses on the difference between quantificational and predica-  
239 tive types of noun phrases, and this difference can also be captured under the notion of strength  
240 as we use it here. What counts as a strong DP—that is, the cut-off point between strong and  
241 weak—may vary from language to language. Thus, we can define the identifying function of  
242 case as identifying/markings the strong arguments, both subjects and objects. Thus, we predict  
243 that strong DPs are likely to be overtly case-marked (de Hoop 1996). However, this does not  
244 always hold. In fact, sometimes the weak rather than the strong arguments receive overt case  
245 marking (see Aissen 1999). We claim that crosslinguistic variation in case-marking patterns can be  
246 analyzed in terms of differences in the relative strengths of the two basic case-marking constraints,  
247 *IDENTIFY* and *DISTINGUISHABILITY*, in relation to *ECONOMY*. In this section, we will present our  
248 bidirectional OT analysis of the resulting case patterns.

249 Consider the pattern in Manipuri, repeated here for convenience. The ergative case on the  
250 subject marks high agentivity, while a decrease in agentivity of the subject is signaled by the  
251 lack of ergative case.

252  
253  
254

(16) əy-nə tebəl-də theŋgi.

I-ERG table-LOC touched

‘I touched the table (volitionally).’

256 (17) əy tebəl-də theŋŋi.  
 257 I table-LOC touched  
 258 'I touched the table (involuntarily).'

259 (16) and (17) constitute a minimal pair of form-meaning pairs, where one form (ergative) corre-  
 260 sponds to one meaning (the strong subject, which we will designate as *A*) and the other form  
 261 (without case) to the other meaning (the weak subject, *a*).

262 A pattern like this with two related forms and two related meanings and a one-to-one mapping  
 263 between the forms and the meanings suggests an analysis in terms of bidirectional OT (Blutner  
 264 2000). The markedness principle that is a general principle in natural language states that an  
 265 unmarked form goes with an unmarked meaning, and a marked form with a marked meaning  
 266 (Horn 1984), and it is known to follow from bidirectional optimization (from form to meaning  
 267 and from meaning to form). Let us briefly illustrate the main characteristics of Blutner's bidirec-  
 268 tional OT (note that there are also other, asymmetrical, bidirectional OT models, such as the ones  
 269 proposed by Wilson (2001) and Zeevat (2000)). Assume that we have two forms  $f_1$  and  $f_2$  and  
 270 two meanings  $m_1$  and  $m_2$ . We stipulate that the form  $f_1$  is less marked than the form  $f_2$ , which  
 271 means that for a given meaning  $m$ , form  $f_1$  will be the optimal form. Furthermore, interpretation  
 272  $m_1$  is less marked than interpretation  $m_2$ , which means that for a given form  $f$ , meaning  $m_1$  will  
 273 be the optimal meaning (Blutner 2000, Dekker and van Rooij 2000).

274 In Blutner's (2000) framework, a form-meaning pair  $\langle f, m \rangle$  is called *superoptimal* if and  
 275 only if there is no other superoptimal pair  $\langle f', m \rangle$  such that  $\langle f', m \rangle$  is more harmonic than  $\langle f, m \rangle$   
 276 and there is no other superoptimal pair  $\langle f, m' \rangle$  such that  $\langle f, m' \rangle$  is more harmonic than  $\langle f, m \rangle$ .  
 277 The reader may verify that according to this definition, and given the two forms  $f_1$  and  $f_2$  and  
 278 the two meanings  $m_1$  and  $m_2$ , there are two superoptimal pairs, namely,  $\langle f_1, m_1 \rangle$  and  $\langle f_2, m_2 \rangle$ .  
 279 Indeed, although  $f_2$  is not an optimal form itself and  $m_2$  is not an optimal meaning, the pair  
 280  $\langle f_2, m_2 \rangle$  is superoptimal, because there is no superoptimal pair that blocks it. A pair  $\langle f, m \rangle$  is  
 281 *blocked* if there is a superoptimal pair  $\langle f', m \rangle$  or  $\langle f, m' \rangle$  that is more harmonic than  $\langle f, m \rangle$ . So,  
 282 the two candidates  $\langle f_1, m_2 \rangle$  and  $\langle f_2, m_1 \rangle$  are not superoptimal because they are each blocked by  
 283 the superoptimal pair  $\langle f_1, m_1 \rangle$ . Now, because  $\langle f_1, m_2 \rangle$  and  $\langle f_2, m_1 \rangle$  are blocked, they are not  
 284 superoptimal. As a consequence, these two pairs cannot block  $\langle f_2, m_2 \rangle$ , because a pair can only  
 285 be blocked by a *superoptimal* pair that is more harmonic either in form or in meaning. Although  
 286  $\langle f_1, m_2 \rangle$  and  $\langle f_2, m_1 \rangle$  are more harmonic than  $\langle f_2, m_2 \rangle$  in form or meaning, respectively, they are  
 287 not superoptimal, so they cannot block the pair  $\langle f_2, m_2 \rangle$ . Thus, Blutner's bidirectional OT provides  
 288 two superoptimal form-meaning pairs, one linking the unmarked form to the unmarked meaning,  
 289 and one linking the marked form to the marked meaning. This is in accordance with the markedness  
 290 principle.

291 Let us now turn to our bidirectional analysis of the Manipuri case-marking pattern. In Mani-  
 292 puri, subject case marking is completely determined by IDENTIFY, so all and only strong subjects  
 293 receive ergative case (Bhat and Ningomba 1997). We assume that a general constraint called  
 294 ECONOMY penalizes morphological case marking. Thus, two superoptimal form-meaning pairs  
 295 are derived for the subject as illustrated in tableau (18).

308 (18) Asymmetrical differential subject case marking in Manipuri  
 309

Subject	IDENTIFY (A/ERG)	ECONOMY
315 323 326 328 329 𑍇 [ERG, A]		*
333 336 [ERG, a]	*	*
340 343 [∅, A]	*	
346 𑍇 [∅, a]		

349 This bidirectional OT tableau can be read as follows. The fourth candidate form-meaning pair is  
 350 superoptimal because it does not violate any of the constraints. This pair combines a weak subject  
 351 meaning with a null form. The second pair has the same meaning as the fourth, but its form

352 (ergative case) is less economical (suboptimal); the third pair has the same form as the fourth,  
 353 but it is linked to a less harmonic meaning (as it induces a violation of IDENTIFY). Therefore, the  
 354 second and third form-meaning pairs are blocked by the fourth pair. The first pair cannot be  
 355 blocked by the superoptimal pair, since it differs in both form *and* meaning from that one. Hence,  
 356 it is not blocked by a superoptimal pair at all (as the other two candidates are not superoptimal  
 357 themselves). That is why the first candidate emerges as superoptimal as well. As a result, there  
 358 are two winning form-meaning pairs, one that assigns no case to a weak subject, and another that  
 359 assigns ergative case to a strong subject. In de Hoop and Malchukov 2007, we argue that in  
 360 particular for this type of (fluid) case alternation, a bidirectional OT approach can straightforwardly  
 361 account for the data while a unidirectional OT approach cannot.

362 Above, we presented Fore as a language where DISTINGUISHABILITY rather than IDENTIFY  
 363 governs differential subject marking. The relevant pattern is repeated here.

364 (19) Yagaa-wama wá aegúye.  
 365 pig-ERG man hit  
 366 ‘The pig hits the man.’

367 (20) Yagaa wá aegúye.  
 368 pig man hit  
 369 ‘The man hits (or kills) the pig.’

370 In Fore, the subject receives ergative case marking when it is (relatively) weak, in the sense that  
 371 it is less prominent than the object (i.e., the object outranks the subject in the animacy hierarchy).  
 372 To distinguish this weak subject from the object, the weak subject is case-marked. Hence, when  
 373 the subject is relatively strong (as animate as or more animate than the object), it remains without  
 374 case. This is illustrated in the bidirectional OT tableau (21).

380 (21) Asymmetrical differential subject case marking in Fore  
 389

Subject	DISTINGUISHABILITY	ECONOMY
[ERG, A]		*
ɔ̃ [ERG, a]		*
ɔ̃ [∅, A]		
[∅, a]	*	

427 The third candidate form-meaning pair is clearly a superoptimal pair, as it does not violate any  
 428 of the constraints. In this candidate pair, the subject outranks the object in animacy (hence is  
 429 marked A for ‘‘strong subject’’), which means that DISTINGUISHABILITY is satisfied, and there is  
 430 no case marking, which means that ECONOMY is satisfied as well. Hence, the third pair blocks  
 431 both pairs that differ from the superoptimal pair in either form (the first candidate) or meaning  
 432 (the fourth candidate). This leaves the second candidate, which differs from the third one in both  
 433 form and meaning, as the second superoptimal form-meaning pair.

434 We have now illustrated how our proposal accounts for differential case-marking patterns on  
 435 the basis of IDENTIFY and DISTINGUISHABILITY, both in relation to a general principle of ECONOMY.  
 436 Strikingly, whereas IDENTIFY in relation to ECONOMY results in ergative case marking of the *strong*  
 437 subject, DISTINGUISHABILITY in relation to ECONOMY results in ergative case marking of the *weak*  
 438 subject. This explains the variation in differential subject-marking patterns that is found crosslingu-  
 439 istically (Malchukov 2007, de Hoop and de Swart 2008).

440 Another phenomenon worth discussing here is *symmetrical* differential case marking, where  
 441 two case forms alternate rather than one case-marked form alternating with a caseless form.  
 442 Relevant examples from Lexgian are given in (22) and (23) (Haspelmath 1993).

443 (22) Ajal-di get’e xana.  
 444 child-ERG pot broke  
 446 ‘The child broke the pot.’



447 (23) Zamiira.di-waj get'e xana.  
 448 Zamira-OBL pot broke  
 449 'Zamira broke the pot (accidentally/involuntarily).'

450 These examples instantiate differential subject marking that reflects features of the subject (in  
 451 particular, volitionality vs. nonvolitionality). Both the weak subject and the strong subject are  
 452 case-marked, so neither remains caseless. So far, we have discussed varieties of *asymmetrical*  
 453 differential case marking, where one form is case-marked and the other is the unmarked or null  
 454 form (shown by the absence of case marking), which can be analyzed as the result of the interaction  
 455 between DISTINGUISHABILITY and ECONOMY (Aissen 1999, 2003). However, in cases of symmetrical  
 456 differential case marking of the type observed in Lezgian, DISTINGUISHABILITY would be  
 457 vacuously satisfied as the appearance of both ergative and oblique case on the subject suffices  
 458 to distinguish between the subject and the object. Hence, whenever symmetrical case alternations  
 459 occur (i.e., two types of morphological case) instead of asymmetrical ones (overt case marking  
 460 vs. no case marking), we suggest an analysis in terms of IDENTIFY. This pattern can be accounted  
 461 for straightforwardly in a bidirectional OT approach as well. In Lezgian, ergative case switches  
 462 to oblique if the subject is weak (in this case, nonvolitional), producing the pattern shown in (24).

469 (24) Symmetrical differential subject case marking in Lezgian  
 470

Subject	IDENTIFY (A/ERG)	ECONOMY
☞ [ERG, A]		*
[ERG, a]	*	*
[OBL, A]	*	*
☞ [OBL, a]		*

518 Note that ECONOMY is violated by all candidate pairs in Lezgian. This can be accounted for if  
 519 we assume a general constraint such as the CASE FILTER, which requires case marking on all DPs  
 520 and which apparently outranks ECONOMY here.

521 Things are different for asymmetrical differential case marking, which is often triggered by  
 522 DISTINGUISHABILITY. This is illustrated by the well-known pattern of differential case marking  
 523 where different types of nominal constituents select different cases; for example, nouns are marked  
 524 differently from pronouns in Australian split-ergative languages. In many split-ergative languages,  
 525 a (first/second person) pronoun does not receive ergative case marking when it is the subject of  
 526 a transitive verb, while a noun does (Silverstein 1976, Aissen 1999). By contrast, (first/second  
 527 person) pronominal direct objects receive accusative case marking, while nominal objects do not.  
 528 A well-known example of this pattern is Dyirbal (Dixon 1979).

530 (25) Case marking in Dyirbal  
 531

	1st, 2nd person pronoun	3rd person pronoun	Noun
543 Transitive subject	∅	-ŋgu	-ŋgu
549 Transitive object	-na	∅	∅

555 This type of differential case marking is due to DISTINGUISHABILITY, interacting with ECONOMY.  
 556 It is illustrated in tableau (26) for differential subject marking in Dyirbal.

569  
576  
580  
588  
590  
594  
598  
600  
603  
606

(26) Asymmetrical differential subject case marking in Dyirbal

Subject	DISTINGUISHABILITY	ECONOMY
[ERG, A]		*
♯ [ERG, a]		*
♯ [Ø, A]		
[Ø, a]	*	

609 In Dyirbal, first and second person pronouns count as strong subjects (As), and they do not need  
610 case marking to distinguish them from objects. This is in accordance with the fact that the same  
611 categories (i.e., first and second person pronouns) count as strong objects (Ps) and therefore  
612 receive accusative case marking when they function as object of a transitive clause. The same  
613 correlation between case-marking strategies and differential case-marking patterns (symmetrical  
614 vs. asymmetrical) observed above for differential subject marking can be observed for differential  
615 object marking too. That is, in a split-ergative language like Dyirbal, differential case marking  
616 of the object is asymmetrical and clearly due to DISTINGUISHABILITY.

617 On the other hand, symmetrical differential object marking must be due to IDENTIFY. Differential  
618 object marking in Finnish illustrates this analysis. In Finnish, weak objects receive partitive  
619 case and strong objects, accusative case. A strong object is obtained when the predicate is bounded  
620 (i.e., nonhomogeneous) (Kiparsky 1998).

621 (27) Ammuin karhu-a.  
622 shot.1SG bear-PART  
623 'I shot at a/the bear.'

624 (28) Ammuin karhu-t.  
625 shot.1SG bear-ACC  
626 'I shot a/the bear.'

627 In Finnish, then, IDENTIFY does the job all by itself. Note that ECONOMY is vacuously violated  
628 here, which means that both candidate forms (and therefore, all four form-meaning pairs) violate  
629 this constraint. And again, DISTINGUISHABILITY would be vacuously satisfied, as either accusative  
630 or partitive case would suffice to distinguish the object from the subject.

631 (29) Symmetrical differential object case marking in Finnish

631  
639  
649  
658  
660  
663  
669  
672  
678  
680  
683

Object	IDENTIFY (P/ACC)	ECONOMY
♯ [ACC, P]		*
[ACC, p]	*	*
[PART, P]	*	*
♯ [PART, p]		*

686 So, while asymmetrical differential case marking can sometimes be explained by DISTINGUISHABIL-  
687 ITY, symmetrical differential case marking is necessarily due to IDENTIFY. This is consistent with  
688 Woolford's (2008) observation that differential case-marking patterns are heterogeneous and that  
689 some are determined by an alternation in argument structure, although Woolford does not relate  
690 the semantic types of differential case marking to the syntactic patterns in the way suggested  
691 here. We believe that the two different strategies of case marking straightforwardly explain the  
692 attested correlations.

693 Unlike in differential subject marking, in asymmetrical differential object marking the effects  
694 of IDENTIFY and DISTINGUISHABILITY converge, because they both require the case marking of  
695 strong (rather than weak) objects. This explains the crosslinguistic consistency of differential  
696 object-marking patterns as compared with differential subject-marking patterns. (This has also  
697 been pointed out by de Hoop and Narasimhan (2005)). To illustrate this, we will briefly discuss

698 differential object marking in Hindi. The object case alternation in Hindi correlates with animacy  
 699 and/or specificity of the object (accusative case-marks an animate or specific object), while nomi-  
 700 native case is the unmarked (morphologically zero) case that functions as the elsewhere case for  
 701 the object.

702 (30) Wo ek laD.kaa / ek laD.ke-ko dekhtaa hae.  
 703 he one boy / one boy-ACC seeing is  
 704 ‘He sees a boy / the boy.’

705 In differential object marking in Hindi, there are again two forms (one without case and one with  
 706 accusative case) and two meanings (a weak object and a strong object), and this leads to two  
 707 superoptimal form-meaning pairs. We can say that the accusative case marking in (30) is the  
 708 result of the constraint IDENTIFY (P/ACC) that marks strong (animate, specific) objects with accusa-  
 709 tive case, as illustrated in tableau (31).

710 (31) Asymmetrical differential object case marking in Hindi

Object	IDENTIFY (P/ACC)	ECONOMY
716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835
716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	716 728 729 736 739 743 748 750 753 758 760 763 764 765 766 767 768 769 781 788 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835

763 However, as noted above, we cannot make a principled distinction between the identifying and  
 764 the distinguishing function of case here, since both functions predict the *strong* objects to be  
 765 case-marked. Indeed, DISTINGUISHABILITY would mark the strong (animate, specific) object with  
 766 accusative case in order to distinguish it from the subject, simply because an animate, specific  
 767 object can be argued to be “subjectlike.” Hence, DISTINGUISHABILITY gives rise to exactly the  
 768 same two superoptimal pairs as IDENTIFY (P/ACC), as tableau (32) shows.

770 (32) Asymmetrical differential object case marking in Hindi

Object	DISTINGUISHABILITY	ECONOMY
776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835
776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835	776 788 789 794 798 802 806 808 813 816 819 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835

821 Although we have shown that the two constraints lead to the same type of differential object  
 822 marking (namely, marking the strong objects), one might wonder whether it is still possible to  
 823 distinguish between differential object marking triggered by IDENTIFY and differential object mark-  
 824 ing triggered by DISTINGUISHABILITY. That is, does the convergence of the two constraints’ effects  
 825 mask two different types of differential object marking after all? We think that indeed it does  
 826 and that some patterns are in fact better explained by IDENTIFY and others by DISTINGUISHABILITY.  
 827 For example, animacy effects in differential object marking are often due to DISTINGUISHABILITY,  
 828 as is obvious in languages such as Awtuw (examples from Feldman 1986).

829 (33) tey tale-re yaw dæli.  
 830 3FEM.SG woman-ACC pig bit  
 831 ‘The pig bit the woman.’

832 (34) tey tale yaw dæli.  
 833 3FEM.SG woman pig bit  
 834 ‘The woman bit the pig.’

835 Awtuw is a Papuan language, like Fore, and as in Fore differential case marking is driven by

836 global distinguishability. The difference between the two Papuan languages is that Fore has  
 837 differential subject marking, while Awtuw has differential object marking. In Awtuw, the object  
 838 is marked with accusative case if it outranks the subject in animacy. Note that we are dealing  
 839 with global (relative) differential object marking here, in the sense that the object marking crucially  
 840 depends on the properties of both the subject and the object—that is, the relation between the  
 841 two. Such a pattern must be due to DISTINGUISHABILITY. In tableau (35), the strong object marker  
 842 *P* stands for an object that outranks the subject in animacy.

849 (35) Asymmetrical differential object case marking in Awtuw  
 850

Object	DISTINGUISHABILITY	ECONOMY
862 869 872 876 ǂ [ACC, P]		*
880 882 [ACC, p]		*
888 890 [∅, P]	*	
893 ǂ [∅, p]		

895 However, DISTINGUISHABILITY is not the best explanation for the differential object marking  
 896 pattern in Central Pomo, where patientive case is locally (i.e., independent of the case of the  
 897 subject) assigned to human objects only (Mithun 1991).

898 (36) M'u-tu ʔa-hk'úm.  
 899 he.PAT I.killed  
 900 'I killed him.'

901 (37) Mu-l ʔa-hk'úm.  
 902 he I.killed  
 903 'I killed it (the bee).'

904 This usual differential object-marking pattern could be explained by DISTINGUISHABILITY. Strik-  
 905 ingly, though, the pattern carries over to differential subject marking.

906 (38) Q'alá-w m'u-tu.  
 907 died he.PAT  
 908 'He died.'

909 In (38), the subject of the intransitive clause is a patient, and since it is human, it receives the  
 910 same case marking as the object of the transitive clause in (36). This can only be explained by  
 911 IDENTIFY, as it is a strong P-argument that gets marked, but in an intransitive clause, thus in the  
 912 absence of another argument (Malchukov 2007). Hence, the case marking in (38) cannot be  
 913 explained by DISTINGUISHABILITY. Therefore, the differential object-marking pattern in this lan-  
 914 guage is also better explained by IDENTIFY, as illustrated in tableau (39).

920 (39) Asymmetrical differential object case marking in Central Pomo  
 921

Object	IDENTIFY (P/PAT)	ECONOMY
933 934 943 948 ǂ [PAT, P]		*
953 956 [PAT, p]	*	*
960 963 [∅, P]	*	
966 ǂ [∅, p]		

968 To sum up, taking into account two functions of case marking, DISTINGUISHABILITY and  
 969 IDENTIFY, we can explain the asymmetries between differential subject marking and differential  
 970 object marking. While the two constraints give rise to the same type of differential object marking  
 971 (marking the strong object), they diverge in the case of differential subject marking (DISTINGUISH-  
 972 ABILITY predicts that the weak subject will be case-marked in order to distinguish it from the  
 973 object, while IDENTIFY predicts that the strong subject will be case-marked). But even in the case

974 of differential object marking, we can find examples that seem to be triggered by the need to  
 975 satisfy DISTINGUISHABILITY, as illustrated by (33) and (34) from Awtuw, as well as examples  
 976 where the key constraint seems to be IDENTIFY, as shown by the paradigm in (36)–(38) from  
 977 Central Pomo.

978 Our approach can also account for violations of Silverstein’s hierarchy constraints on case  
 979 patterns, such as the use of ergative case in Aranda (Silverstein 1976, discussed in Woolford  
 980 2008). In Aranda, both first person pronouns (strongest in the person hierarchy) and inanimate  
 981 nouns (weakest in the animacy hierarchy) are surprisingly assigned ergative case.

982 (40) *ERG: 1st > 2nd > 3rd > human > animate > inanimate*

983 This pattern results from the fact that both IDENTIFY and DISTINGUISHABILITY interact with the  
 984 animacy hierarchy (Silverstein 1976, Aissen 2003), but interact in the opposite way. Recall that  
 985 DISTINGUISHABILITY compels differential case marking on the weakest (inanimate) subjects. Hence,  
 986 the constraint penalizing inanimate subjects unmarked for ergative case is the strongest, and the  
 987 marking of inanimate subjects in Aranda results from the fact that this constraint is stronger than  
 988 ECONOMY considerations, which penalize morphological case, while other segments of the animacy  
 989 hierarchy are dominated by the economy constraints. On the other hand, IDENTIFY penalizes case  
 990 marking of subjects lower in the animacy hierarchy: only the strongest subjects (i.e., the first  
 991 person pronouns) are identified/marked with ergative case. Hence, this constraint outranks the  
 992 ECONOMY constraint as well. Thus, the effects of both IDENTIFY and DISTINGUISHABILITY are visible  
 993 in Aranda: the ergative case on the first person pronoun (strong subject) is due to IDENTIFY, while  
 994 the ergative case on the inanimate noun (weak subject) satisfies DISTINGUISHABILITY. The other  
 995 types of subjects hold an intermediate position between weak and strong, and we will designate  
 996 them as *A-a* (in this representation, we abstract away from the fact that this is not a unitary type,  
 997 as it relates to different positions in the animacy hierarchy).

1005 (41) Asymmetrical differential subject case marking in Aranda

1003  
 1029  
 1028  
 1032  
 1035  
 1039  
 1043  
 1048  
 1050  
 1055  
 1058  
 1060  
 1063  
 1068

Subject	DISTINGUISHABILITY	IDENTIFY (A/ERG)	ECONOMY
♯ [ERG, A]			*
[ERG, A-a]		*	*
♯ [ERG, a]		*	*
[∅, A]		*	
♯ [∅, A-a]			
[∅, a]	*		

1070 The fifth candidate form-meaning pair in tableau (41), which combines no case with an intermedi-  
 1071 ate subject (not strong, not weak), emerges as superoptimal. This candidate blocks the ones that  
 1072 differ from it only in form or in meaning. However, the first and third candidate pairs differ both  
 1073 in form *and* in meaning from the superoptimal pair. Hence, they emerge as superoptimal as well.  
 1074 One might think that the third candidate pair would be blocked by the first one, since these two  
 1075 differ only in meaning, not in form. However, this is not the case. First, there is no other case  
 1076 form available; hence, there is no other form for the other meaning (the weak, inanimate subject)  
 1077 and we may expect ambiguity. More importantly, though, a difference in form is not really  
 1078 necessary here, because the first person pronoun (a strong subject) can never be inanimate (a  
 1079 weak subject) at the same time. That is, ergative case is not ambiguous here between marking a  
 1080 strong subject and marking a weak subject.

#### 1081 4 The Relation between Case and Voice Alternations

1082 So far, we have worked with a very general economy constraint (simply called ECONOMY in the  
 1083 OT tableaux) that interacted with our two basic case-marking constraints, DISTINGUISHABILITY  
 1084 and IDENTIFY. To account for a few more crosslinguistic generalizations in the domain of case

1085 marking, we need to refine this constraint. That is, we will replace ECONOMY with Malchukov’s  
1086 (2006) constraint PAIP, whose name originally abbreviated *Primary Actant Immunity Principle*.  
1087 The *primary actant* (or *primary term* in Palmer’s (1994) terminology) refers to the argument of  
1088 a transitive clause that is encoded like the intransitive subject. In our formulation, PAIP penalizes  
1089 case-marking an (otherwise) unmarked argument. Thus, in general, PAIP penalizes morphological  
1090 case marking of the absolutive argument in ergative languages and of the nominative argument  
1091 in nominative-accusative languages. Of course, this can be seen as a reformulation of a constraint  
1092 stating that one argument should always bear the unmarked case—or, to put it differently, that  
1093 the unmarked case (either nominative or absolutive) is obligatorily present in every sentence of  
1094 a language. This constraint thus resembles Tsunoda’s (1981) Unmarked Case Constraint and  
1095 Bobaljik’s (1993) Obligatory Case Parameter.

1096 (42) *PAIP*  
1097 Avoid (case) marking of the unmarked argument.

1098 PAIP thus penalizes “marking the unmarked.” As Malchukov (2006) has argued, the potential  
1099 conflict between IDENTIFY and PAIP can explain the striking fact that differential object marking  
1100 is normally found in nominative-accusative languages, while differential subject marking is usually  
1101 found in ergative languages (Bossong 1985, Drossard 1991).

1102 In nominative-accusative languages, where the subject of a transitive sentence is the un-  
1103 marked argument, differential object marking does not violate PAIP, which is satisfied by the  
1104 nominative subject. But in ergative languages, where the object of a transitive verb is the unmarked  
1105 argument, object marking would induce a violation of PAIP. In those languages, a weak object  
1106 often leads to the use of an antipassive construction, while a strong object remains in the unmarked  
1107 (absolutive) case. For example, consider the alternation between (43) and (44) in Greenlandic  
1108 Eskimo (Bittner 1988).

1109 (43) Jaaku-p arnaq tuqut-p-aa.  
1110 Jacob-ERG woman kill-IND-3SG.ERG/3SG.NOM  
1111 ‘Jacob killed the woman.’

1112 (44) Jaaku arna-mik tuqut-si-v-uq.  
1113 Jacob woman-INSTR kill-AP-IND-3SG.NOM  
1114 ‘Jacob killed a woman.’

1115 Note that in (44) the object or the *y* argument is nonspecific, whereas it is specific in (43). Yet  
1116 only (43) is a true transitive construction with ergative case on the subject and both subject and  
1117 object agreement on the verb; (44) is in fact an intransitive—more specifically, antipassive—  
1118 construction, and its only true argument (the subject) is therefore unmarked for case, whereas the  
1119 *y* argument is marked with oblique (instrumental) case.

1120 Note that marking of the weak objects in an antipassive construction might appear problematic  
1121 since the constraints DISTINGUISHABILITY and IDENTIFY both predict preferential marking of strong  
1122 objects. The contradiction is only apparent, though. As noted above, in ergative languages the  
1123 constraint IDENTIFY (P/ACC) cannot be satisfied because these languages lack accusative case.  
1124 Hence, the strong object in a canonical transitive construction will remain unmarked. However,  
1125 a weaker version of IDENTIFY, requiring differential marking of weak and strong objects, can be  
1126 satisfied indirectly, through marking the weak object with an oblique case—that is, differently  
1127 from strong objects. In this article, we have dealt primarily with core cases and have used the  
1128 version of IDENTIFY pertaining to strong objects. Explaining why the weak object receives instru-  
1129 mental case here is beyond the scope of the article, but we assume that assignment of oblique  
1130 cases is also governed by faithfulness constraints such as IDENTIFY. Recall that in section 2 we  
1131 mentioned that lexical (inherent, oblique) as well as semantic cases are obvious examples of the  
1132 identifying strategy. However, for our current line of argument it is only important that IDENTIFY-  
1133 P is satisfied here, even though indirectly (in the negative way). Below, we will provide more  
1134 examples showing how a weaker version of IDENTIFY interacting with ECONOMY can explain some  
1135 unusual patterns of differential case marking.

1136 In other words, weak objects may cause the shift to antipassive in ergative languages. This  
 1137 can be explained as the avoidance of a PAIP violation. Marking the alternation on the (absolute)  
 1138 object would violate PAIP, which states that the unmarked argument should not be tampered with.  
 1139 Using the antipassive construction causes the subject to become the unmarked argument (in the  
 1140 absolute case), which means that PAIP as a requirement that the clause must have an unmarked  
 1141 argument is fulfilled.

1142 Evidence for PAIP is found in nominative-accusative languages as well. In ergative languages,  
 1143 a change in the strength of the subject can affect the form of the subject exclusively (differential  
 1144 subject marking), since this does not violate PAIP. In nominative-accusative languages, on the  
 1145 other hand, a weak agent subject regularly leads to passivization. Thus, passivization applies  
 1146 when the subject is indefinite, nonspecific, or not important in the discourse. Similarly, in some  
 1147 languages passive forms are used to indicate nonvolitionality on the part of the subject (see Masica  
 1148 1991 on Sinhala and Dhivehi). In ergative languages, on the other hand, a nonvolitional subject  
 1149 may lead to a differential subject-marking pattern, as observed above. Thus, features that trigger  
 1150 differential subject marking in ergative languages may cause the use of a passive construction in  
 1151 nominative-accusative languages. Again, this can be straightforwardly explained by PAIP. Marking  
 1152 a change in meaning on the (nominative) subject of a transitive clause would violate PAIP, which  
 1153 states that the unmarked argument should not be marked. Using the passive construction causes  
 1154 the object to be promoted to the function of subject and hence to become the unmarked argument  
 1155 (in the nominative case), thus satisfying PAIP.

1156 As is expected if PAIP is a violable constraint, it may be violated as well in certain circum-  
 1157 stances. A case where PAIP is violated comes from Warlpiri (Hale 1973).

1158 (45) Njuntulu-lu npa-tju ŋatju.  
 1159 2SG-ERG 2SG-1SG speared.1SG  
 1160 ‘You speared me.’

1161 (46) Njuntulu-lu npa-tju-la ŋatju-ku.  
 1162 2SG-ERG 2SG-1SG-LA speared.1SG-DAT  
 1163 ‘You speared at me.’ ‘You tried to spear me.’

1164 In (45), the object is in the unmarked case, the absolute, while the subject is in the ergative  
 1165 case. In (46), however, we assume that the object ‘me’ is weak, as the action is attempted but  
 1166 not necessarily accomplished, and this weakness is marked by dative case on the object. In other  
 1167 ergative languages, as shown in (44), a weak object may result in the use of an antipassive  
 1168 construction. In Warlpiri, however, the construction in (46) is not an antipassive construction,  
 1169 because the subject retains ergative case and there is no antipassive morphology on the predicate  
 1170 either. So, both arguments of the transitive clause are actually case-marked in (46) and this means  
 1171 that PAIP is indeed violated. We can argue that in examples such as (46) IDENTIFY and PAIP again  
 1172 conflict, but IDENTIFY outranks PAIP.

1173 To sum up, we have presented harmonic cases where IDENTIFY and PAIP reinforce each  
 1174 other—that is, both constraints can be satisfied in case of differential object marking in nomina-  
 1175 tive-accusative languages and differential subject marking in ergative languages. When the two  
 1176 constraints are in conflict, a voice alternation is a common way to resolve it. As predicted,  
 1177 passivization applies when a subject alternation must be encoded in a nominative-accusative  
 1178 language, while antipassivization applies when an object alternation must be encoded in an ergative  
 1179 language (Malchukov 2006). This is also observed by Legendre, Raymond, and Smolensky (1993),  
 1180 who argue that passives occur when the input is *aP* (with a weak subject), while antipassives  
 1181 occur when the input is *Ap* (with a weak object). However, Legendre, Raymond, and Smolensky  
 1182 do not account for the fact that passives are found more often in nominative-accusative languages,  
 1183 while antipassives are found more often in ergative languages. In our approach, this is straightfor-  
 1184 wardly explained by the interaction between two conflicting constraints, as an attempt to satisfy  
 1185 PAIP.

1186 There are exceptions to this general picture, however, as already discussed by Malchukov  
 1187 (2006). For example, sometimes ergative languages seem to disfavor differential subject marking

1188 because the transitive subject and the verb agree. In Inuit, where the verb agrees with both the  
 1189 subject and the object, it can be argued that not only the (absolute) object but also the ergative  
 1190 subject have properties that are attributed to the “primary” (unmarked) argument referred to by  
 1191 PAIP. Malchukov argues that for this reason, Inuit disfavors differential subject marking and turns  
 1192 to the use of a passive construction instead, although passive formation is otherwise typical of  
 1193 nominative-accusative languages. Similarly, one can argue that when the verb agrees with the  
 1194 object in a nominative-accusative language, the object has properties associated with the “pri-  
 1195 mary” unmarked argument, and therefore this language may resist differential object marking  
 1196 and turn to the use of an antipassive instead, a voice that is otherwise almost exclusively found  
 1197 with ergative languages. The latter view is consistent with Nichols’s (1992:158) observation that  
 1198 not only ergative languages but also “those accusative languages in which there is agreement  
 1199 with the O [object]” have antipassives. Another complication is presented by languages that show  
 1200 multiple agreement (with both the subject and the object). For more discussion of these issues,  
 1201 see Malchukov 2006.

1202 Also, related to the previous discussion, we have shown that in Warlpiri, PAIP is clearly  
 1203 violated, as it is outranked by IDENTIFY. Note that Warlpiri is known as a “surface ergative”  
 1204 language, which displays hardly any ergative features apart from case marking (e.g., the agreement  
 1205 system functions on a nominative-accusative basis). Thus, for this language the status of the object  
 1206 as the “primary,” unmarked argument is questionable. Basically, each of the two arguments is  
 1207 unmarked in its own way, the subject of the transitive sentence being unmarked in terms of  
 1208 agreement, and the object being unmarked in terms of case. Hindi is another example of a language  
 1209 where PAIP is clearly ranked lower than IDENTIFY. Hindi shows both differential subject marking  
 1210 (based on a split between perfective and imperfective tenses) and differential object marking  
 1211 (based on the features animacy and specificity of the object). The two case-marking alternations  
 1212 are for the most part independent of each other in Hindi, which means that both arguments can  
 1213 be “unmarked,” but which also means that both arguments can be case-marked, as illustrated  
 1214 by the ergative-accusative pattern in (47).

1215 (47) Us-ne ek laD.ke-ko dekhaa.  
 1216 he-ERG one boy-ACC saw  
 1217 ‘He saw the boy.’

1218 Thus, PAIP is ranked low in Hindi (see de Hoop and Narasimhan 2005), and this might be related  
 1219 to the fact that it is hard to identify one argument as the “primary” or unmarked argument. In  
 1220 Kashmiri, which also has differential subject and object marking, animate objects are *not* marked  
 1221 in perfective contexts, that is, when ergative case is assigned to the subject (Klaiman 1987). In  
 1222 (48), with an imperfective verb, the first person pronominal object receives accusative case; in  
 1223 (49), with a perfective verb, it remains caseless (Wali and Koul 1997).

1224 (48) Su chu me parina:va:n.  
 1225 he is 1SG.ACC teaching  
 1226 ‘He is teaching me.’

1227 (49) Nana-n roTus bi.  
 1228 Nana-ERG caught 1SG  
 1229 ‘Nana caught me.’

1230 This means that PAIP is ranked higher in Kashmiri than in Hindi, and so in Kashmiri one argument  
 1231 must remain unmarked (if not the subject, then the object).

1232 A final puzzle arises in certain cases where an A-feature is marked on the object, or where  
 1233 a P-feature is marked on the subject, to satisfy PAIP. These cases are discussed more extensively  
 1234 in Malchukov 2006. One example is the following Russian construction, where nonvolitionality  
 1235 of the subject is marked by instrumental case on the object.

1236 (50) On krutil rulj.  
 1237 he rotated wheel-ACC  
 1238 ‘He rotated the wheel (consciously).’



1239 (51) On krutil ruljom.  
1240 he rotated wheel-INSTR  
1241 'He rotated the wheel unconsciously.'

1242 In this example, it seems that IDENTIFY is violated in order to satisfy PAIP. IDENTIFY would require  
1243 marking (non)volitionality on the subject. But in Russian, which is a nominative-accusative lan-  
1244 guage, nonvolitionality of the subject is encoded on the object in order to leave the unmarked  
1245 nominative subject unmarked. Therefore, one could argue that PAIP outranks IDENTIFY. In fact,  
1246 however, IDENTIFY is not really violated here. The alternation between a weak and a strong subject  
1247 *is* identified by case after all, albeit a case alternation on the object. Malchukov (2006) presents  
1248 more examples of the same sort and argues that in these cases, IDENTIFY is satisfied after all, even  
1249 by the marking of the “wrong” argument (in this case, the object is marked to express a feature  
1250 of the subject). We assume that in these cases PAIP outranks a specific constraint such as IDENTIFY  
1251 (A/ERG), which universally outranks a more general version of IDENTIFY (Woolford 2001). While  
1252 satisfaction of PAIP in the Russian construction necessarily implies violation of the specific con-  
1253 straint IDENTIFY (A/ERG), the more general version of IDENTIFY can still be satisfied by case-  
1254 marking the relevant feature (volitionality of the subject) on the wrong argument (the object).

1255 To sum up, we have shown that the attested case and voice correlations in different types  
1256 of languages can generally be analyzed as resulting from the interplay between two violable  
1257 constraints, IDENTIFY and PAIP.

## 1258 5 Conclusions

1259 We have distinguished two main strategies of case marking, DISTINGUISHABILITY and IDENTIFY,  
1260 and argued that they both play a role in the languages of the world. DISTINGUISHABILITY requires  
1261 case marking to *disambiguate*, that is, to distinguish between the arguments of a transitive clause.  
1262 IDENTIFY is a strategy that requires case marking to *identify* specific semantic-pragmatic informa-  
1263 tion. In this article, we have investigated the two strategies of case marking and analyzed them  
1264 as violable constraints. We have shown that they converge in the domain of differential object  
1265 marking, whereas they diverge in the domain of differential subject marking. We have analyzed  
1266 these patterns within a bidirectional OT approach, which we believe can handle more types of  
1267 attested case alternations than a unidirectional OT syntactic account (see de Hoop and Malchukov  
1268 2007). We have also argued that while asymmetrical differential case marking can sometimes be  
1269 explained by DISTINGUISHABILITY, symmetrical differential case marking must always be due to  
1270 IDENTIFY. The variety of patterns found across languages is predicted on the basis of these two  
1271 case-marking constraints in relation to a principle of ECONOMY. Finally, following Malchukov  
1272 (2006), we have argued that it is not a coincidence that antipassive constructions and differential  
1273 subject marking are found mostly in ergative languages, while passive formation and differential  
1274 object marking are found mostly in nominative-accusative languages. This is due to the interaction  
1275 of IDENTIFY and an economy constraint, PAIP, that penalizes marking of the “unmarked” argument  
1276 (*the “unmarked” argument* refers to the nominative argument in nominative-accusative languages  
1277 and the absolutive argument in ergative languages). In general, we hope to have shown that it is  
1278 worth taking a surface phenomenon such as the presence or absence of morphological case seri-  
1279 ously, as it has deep repercussions in grammar.

## 1280 References

- 1281 Aissen, Judith. 1999. Markedness and subject choice in Optimality Theory. *Natural Language and Linguistic*  
1282 *Theory* 17:673–711.  
1283 Aissen, Judith. 2003. Differential object marking: Iconicity vs. economy. *Natural Language and Linguistic*  
1284 *Theory* 21:435–483.  
1285 Bhat, D. N. S., and M. S. Ningomba. 1997. *Manipuri grammar*. Munich: Lincom.  
1286 Bittner, Maria. 1988. Canonical and noncanonical argument expressions. Doctoral dissertation, University  
1287 of Texas, Austin.  
1288 Blutner, Reinhard. 2000. Some aspects of optimality in natural language interpretation. *Journal of Semantics*  
1289 17:189–216.

- 1290 Bobaljik, Jonathan David. 1993. Nominally absolutive is not absolutely nominative. In *Proceedings of the*  
1291 *Eleventh West Coast Conference on Formal Linguistics*, ed. by Jonathan Mead, 44–60. Stanford,  
1292 CA: CSLI Publications.
- 1293 Bossong, Georg. 1985. *Differentielle Objektmarkierung in den neuiranischen Sprachen*. Tübingen: Gunter  
1294 Narr.
- 1295 Bouchard, Denis. 2001. The concept of ‘universal’ and the case of Japanese. *Lingua* 111:247–277.
- 1296 Burzio, Luigi. 2000. Anatomy of a generalization. In *Arguments and case: Explaining Burzio’s Generaliza-*  
1297 *tion*, ed. by Eric J. Reuland, 195–240. Amsterdam: John Benjamins.
- 1298 Butt, Miriam, and Tracy Holloway King. 2003. Case systems: Beyond structural distinctions. In *New perspec-*  
1299 *tives on case theory*, ed. by Ellen Brandner and Heike Zinsmeister, 53–87. Stanford, CA: CSLI  
1300 Publications.
- 1301 Butt, Miriam, and Tracy Holloway King. 2004. The status of case. In *Clause structure in South-Asian*  
1302 *languages*, ed. by Veneeta Dayal and Anoop Mahajan, 153–198. Dordrecht: Kluwer.
- 1303 Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- 1304 Comrie, Bernard. 1989. *Language universals and linguistic typology*. Chicago: University of Chicago Press.
- 1305 Dekker, Paul, and Robert van Rooij. 2000. Bi-directional Optimality Theory: An application of game theory.  
1306 *Journal of Semantics* 17:217–247.
- 1307 Dixon, R. M. W. 1979. Ergativity. *Language* 55:59–138.
- 1308 Dowty, David. 1991. Thematic proto-roles and argument selection. *Language* 67:547–619.
- 1309 Drossard, Werner. 1991. Kasusmarkierung: Zur Zentralität und Peripherizität von Partizipanten. In *Partizipation:*  
1310 *Das sprachliche Erfassen von Sachverhalten*, ed. by Hansjakob Seiler and Waldfried Premper,  
1311 447–480. Tübingen: Gunter Narr.
- 1312 Enç, Mürvet. 1991. The semantics of specificity. *Linguistic Inquiry* 22:1–25.
- 1313 Feldman, Harry. 1986. *A grammar of Awtuw*. Canberra: Australian National University.
- 1314 Foley, William A. 1986. *The Papuan languages of New Guinea*. Cambridge: Cambridge University Press.
- 1315 Fry, John. 2001. Ellipsis and ‘wa’-marking in Japanese conversation. Doctoral dissertation, Stanford Univer-  
1316 sity, Stanford, CA.
- 1317 Hale, Ken. 1973. Person marking in Warlpiri. In *A festschrift for Morris Halle*, ed. by Stephen Anderson  
1318 and Paul Kiparsky, 308–344. New York: Holt, Rinehart and Winston.
- 1319 Haspelmath, Martin. 1993. *A grammar of Lezgian*. Berlin: Mouton de Gruyter.
- 1320 de Hoop, Helen. 1996. *Case configuration and noun phrase interpretation*. New York: Garland.
- 1321 de Hoop, Helen, and Monique J. A. Lamers. 2006. Incremental distinguishability of subject and object. In  
1322 *Case, valency and transitivity*, ed. by Leonid Kulikov, Andrej L. Malchukov, and Peter de Swart,  
1323 269–287. Amsterdam: John Benjamins.
- 1324 de Hoop, Helen, and Andrej L. Malchukov. 2007. On fluid differential case marking: A bidirectional OT  
1325 approach. *Lingua* 117:1636–1656.
- 1326 de Hoop, Helen, and Bhuvana Narasimhan. 2005. Differential case-marking in Hindi. In *Competition and*  
1327 *variation in natural languages: The case for case*, ed. by Mengister Amberber and Helen de Hoop,  
1328 321–345. Oxford: Elsevier.
- 1329 de Hoop, Helen, and Peter de Swart, eds. 2008. *Differential subject marking*. Dordrecht: Springer.
- 1330 Horn, L. 1984. Towards a new taxonomy of pragmatic inference: Q-based and R-based implicature. In  
1331 *Meaning, form, and use in context: Linguistic applications*, ed. by Deborah Schiffrin, 11–42. Wash-  
1332 ington, DC: Georgetown University Press.
- 1333 Keenan, Edward. 1978. Language variation and the logical structure of Universal Grammar. In *Language*  
1334 *universals*, ed. by Hansjakob Seiler, 89–123. Tübingen: Gunter Narr.
- 1335 Kibrik, Alexandr E. 1985. Toward a typology of ergativity. In *Grammar inside and outside the clause*, ed.  
1336 by Johanna Nichols and Anthony Woodbury, 268–324. Cambridge: Cambridge University Press.
- 1337 Kiparsky, Paul. 1998. Partitive case and aspect. In *The projection of arguments: Lexical and compositional*  
1338 *factors*, ed. by Miriam Butt and Wilhelm Geuder, 265–307. Stanford, CA: CSLI Publications.
- 1339 Klaiman, M. H. 1987. Mechanisms of ergativity in South Asia. In *Studies in ergativity*, ed. by R. M. W.  
1340 Dixon, 61–103. Amsterdam: North Holland.
- 1341 Lapolla, Randy. 2003. *A grammar of Qiang*. Berlin: Mouton de Gruyter.
- 1342 Lee, Kiri. 2002. Nominative case marker deletion in spoken Japanese: An analysis from the perspective of  
1343 information structure. *Journal of Pragmatics* 34:683–709.
- 1344 Legendre, Géraldine, William Raymond, and Paul Smolensky. 1993. An optimality-theoretic typology of  
1345 case and grammatical voice systems. In *Proceedings of the 19th annual meeting of the Berkeley*  
1346 *Linguistics Society*, ed. by Joshua S. Guenter, Barbara A. Kaiser, and Cheryl Zoll, 464–478. Berkeley:  
1347 University of California, Berkeley Linguistics Society.
- 1348 Malchukov, Andrej L. 2006. Transitivity parameters and transitivity alternations: Constraining co-variation.  
1349 In *Case, valency and transitivity*, ed. by Leonid Kulikov, Andrej L. Malchukov, and Peter de Swart,  
1350 329–357. Amsterdam: John Benjamins.
- 1351 Malchukov, Andrej L. 2007. Animacy and asymmetries in differential case marking. *Lingua* 118:203–221.
- 1352 Mallinson, Graham, and Barry J. Blake. 1981. *Language typology: Cross-cultural studies in syntax*. Amster-

1353 dam: North-Holland.  
1354 Marantz, Alec. 1991. Case and licensing. In *Proceedings of the Eighth Eastern States Conference on Linguistics (ESCOL '91)*, ed. by German Westphal, Benjamin Ao, and Hee-Rahk Chae, 234–253. Ithaca,  
1355 NY: Cornell University, CLC Publications. Reprinted in *Arguments and case: Explaining Burzio's*  
1356 *Generalization*, ed. by Eric J. Reuland, 11–30. Amsterdam: John Benjamins, 2000.  
1357  
1358 Masica, Colin P. 1991. *The Indo-Aryan languages*. Cambridge: Cambridge University Press.  
1359 Mithun, Marianne. 1991. Active/Agentive case marking and its motivations. *Language* 67:510–546.  
1360 Nichols, Johanna. 1992. *Linguistic diversity in space and time*. Chicago: University of Chicago Press.  
1361 Palmer, F. R. 1994. *Grammatical roles and relations*. Cambridge: Cambridge University Press.  
1362 Prince, Alan, and Paul Smolensky. 2004. *Optimality Theory: Constraint interaction in generative grammar*.  
1363 Oxford: Blackwell.  
1364 Scott, Graham. 1978. *The Fore language of Papua New Guinea*. Canberra: Pacific Linguistics.  
1365 Silverstein, Michael. 1976. Hierarchy of features and ergativity. In *Grammatical categories in Australian*  
1366 *languages*, ed. by R. M. W. Dixon, 112–171. Canberra: Australian Institute of Aboriginal Studies.  
1367 Song, Jae Jung. 2001. *Linguistic typology: Morphology and syntax*. London: Longman.  
1368 de Swart, Peter. 2006. Case markedness. In *Case, valency and transitivity*, ed. by Leonid Kulikov, Andrej  
1369 L. Malchukov, and Peter de Swart, 249–267. Amsterdam: John Benjamins.  
1370 Tsunoda, Tasaku. 1981. Split case-marking in verb types and tense/aspect/mood. *Linguistics* 19:389–438.  
1371 Wali, Kashi, and Omkhar Koul. 1997. *Kashmiri: A cognitive-descriptive grammar*. London: Routledge.  
1372 Wilson, Colin. 2001. Bidirectional optimization and the theory of anaphora. In *Optimality-theoretic syntax*,  
1373 ed. by Géraldine Legendre, Jane Grimshaw, and Sten Vikner, 465–508. Cambridge, MA: MIT Press.  
1374 Woolford, Ellen. 2001. Case patterns. In *Optimality-theoretic syntax*, ed. by Géraldine Legendre, Jane Grimshaw,  
1375 and Sten Vikner, 509–545. Cambridge, MA: MIT Press.  
1376 Woolford, Ellen. 2008. Differential subject marking at argument structure, syntax, and PF. In *Differential*  
1377 *subject marking*, ed. by Helen de Hoop and Peter de Swart, 17–40. Dordrecht: Springer.  
1378 Zeevat, Henk. 2000. The asymmetry of optimality theoretic syntax and semantics. *Journal of Semantics* 17:  
1379 243–262.

1380 (*de Hoop*)  
1381 *Department of Linguistics*  
1382 *Radboud University Nijmegen*  
1383 *P.O. Box 9103*  
1384 *6500 HD Nijmegen*  
1385 *The Netherlands*  
1386 *H.deHoop@let.ru.nl*

1387 (*Malchukov*)  
1388 *Department of Linguistics*  
1389 *Max Planck Institute for Evolutionary Anthropology*  
1390 *Deutscher Platz 6*  
1391 *D-04105 Leipzig*  
1392 *Germany*  
1393 *andrej\_malchukov@eva.mpg.de*  
1394  
1395  
1396  
1397 \*\*\*\*\* END OF FILE \*\*\*\*\*  
1398 12707\$\$201 05-28-08 11:53:46  
1399