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1 **Optional and alternating case marking: Typology and diachrony**

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4 **Abstract**

5
6 This paper presents a survey of the typology and diachrony of optional and alternating case
7 marking, in the context of related phenomena such as referent- and construction-based splits.
8 While there is much recent work in this area, driven by text-based approaches to language
9 description, as well as quantitative and areal approaches to typology, the domain remains
10 somewhat scattered, conceptually and terminologically. We chart the relevant phenomena,
11 and provide a typological survey of optional and alternating marking for A and O arguments.
12 We also highlight some of the questions that remain, including problems with the classic
13 model of case marking based on markedness reversal. A final section investigates the
14 diachronic origins of optional case markers. These are largely similar to those for non-
15 optional systems, apart from certain lexical sources, as well as factors related to information
16 structure, both in the form of source domains and as constructional contexts playing a role in
17 the development of the markers.

18
19 **Keywords:**

20 case, optional marking, alternating marking, differential marking, split case systems,
21 typology, diachrony

24 **1. Introduction**

25

26 This paper provides a survey of the typology and diachrony of optional and alternating case
27 marking, in the context of related phenomena like referent- and construction-based splits in
28 case marking. There is much recent work in this area, driven by text-based approaches to
29 language description, as well as quantitative and areal approaches to typology, but the domain
30 remains somewhat scattered, conceptually and terminologically. In this paper, we try to chart
31 the relevant phenomena, synthesize the main contributions in the literature, and highlight and
32 clarify some of the questions and problems that remain.

33 In very general terms, optional case marking refers to the situation where a case marker
34 can be present or absent in a particular environment without affecting grammatical roles
35 (following Kittilä 2005, McGregor 2010, 2013). In the Umpithamu structure in (1), for
36 instance, the ergative marker can be left out without affecting the interpretation of the relevant
37 nominal as the A argument (i.e. the more Agent-like argument) in the clause. Alternating case
38 marking, by contrast, is defined here as referring to the situation where two overt case
39 markers alternate in the same environment, similarly without affecting grammatical roles
40 (following a conceptual distinction made in McGregor 2010, Iemmolo 2013, though with
41 different terminology; see section 2 on our terminological choices). This is the case in the
42 Finnish structure in (2), where an accusative marker alternates with a partitive, without
43 affecting the interpretation of the relevant nominal as the O argument (i.e. the more Patient-
44 like argument) in the clause.

45

46 (1) Umpithamu (Pama-Nyungan; Verstraete fn)

47 a. waypala-mpal maarra-n=antyangku motoka-nti

48 whitefella-ERG take-PST=1PLEXC.ACC car-COM

49 ‘The whitefella took us in the car.’

50 b. waypala maarra-n=antyangku

51 whitefella take-PST=1PLEXC.ACC

52 ‘The whitefella took us.’

53 (2) Finnish (Uralic; Iemmolo 2013: 379)

54 a. hän jo-i maido-n

55 s/he drink-PST.3SG milk-ACC

56 ‘S/he drank (all) the milk’

57 b. hän jo-i maito-a

58 s/he drink-PST.3SG milk-PART

59 ‘S/he drank (some of the) milk’

60

61 Both of these examples can be contrasted with classic ‘obligatory’ case systems, where
62 switches in case by definition serve to mark changes in grammatical role (e.g. Blake 2004).
63 Still, the presence or absence of a case marker in structures like (1) is not meaningless, nor is
64 the alternation with other case markers in structures like (2). In (1), for instance, the presence
65 of an ergative marker places focus on the referent, while in (2) the alternation between
66 accusative and partitive marks different degrees of affectedness of the referent in the event.¹
67 These types of meaning are broadly in line with the meanings highlighted in the literature on
68 these topics, respectively from the domains of information structure and participant
69 involvement (see further in section 3).

70 Systems of optional and alternating case marking are interesting for a range of reasons.
71 First, they are theoretically challenging. Case is at the core of clause structure, coding the
72 essential grammatical roles: optional and alternating marking of case challenges rigid notions
73 of paradigmaticity and ideal grammars, and highlights the need to look towards intersections
74 with discourse, interpersonal organization and diachrony in accounting for case marking.
75 Second, optional and alternating case marking are interesting from a typological perspective.
76 There are many classic generalizations about case in linguistic typology, most obviously
77 relating to different versions of the referential hierarchy (e.g. Silverstein 1976, Moravcsik
78 1978, DeLancey 1981, Tsunoda 1981). The validity of such hierarchies has recently been
79 questioned (Bickel et al. 2014); phenomena of optional and alternating marking add further
80 questions, in the sense that they challenge the markedness relations assumed to underly
81 referential hierarchies. Finally, phenomena of optional and alternating case marking are also
82 conceptually and terminologically challenging. Case marking has rarely been analysed as
83 completely uniform, and ‘optional’ and ‘alternating’ marking are part of a crowded field of
84 labels for case systems that rely on alternations and optionalities of various kinds, like split
85 systems, hierarchical systems and many other types. In this sense, phenomena like the ones
86 illustrated in (1) and (2) also highlight the need for more precise characterizations of the
87 nature of different types of optionalities and alternations in case marking, and how these relate
88 to each other.

¹ It is well-known that the partitive case serves a variety of functions in Finnish, and not only marking partial affectedness (see, for instance, Luraghi & Kittilä 2014, Huumo 2018). Here we simply focus on the contrasting pair of sentences in (2).

89 In this paper, we situate optional and alternating case marking within the larger field of
90 research on case marking systems, we try to synthesize the most important contributions in
91 the recent typological and diachronic literature, and we highlight some of the questions and
92 problems that remain. As suggested by our use of the term ‘case’, we focus on dependent-
93 marking patterns. This is where much of the recent work on optional and alternating marking
94 has been concentrated, and it is likely that relevant generalizations are specific to patterns of
95 dependent marking, and cannot simply be transferred to head marking (as shown, for instance,
96 by Iemmolo’s (2011) comparison of case and indexation for optional and alternating object
97 marking). The structure of the paper is as follows. Section 2 defines the basic phenomena,
98 focusing first on optional and alternating case marking, and then on the related phenomena of
99 referent- and construction-based splits in case marking. Section 3 discusses the typological
100 generalizations proposed in the literature, focusing specifically on how the different types of
101 case marking relate to each other. We show that the classic unified model based on
102 markedness reversals between Agents and Patients is problematic, and we propose a more
103 differentiated approach. Section 4 discusses what we know about the diachronic development
104 of systems of optional and alternating case marking, particularly what is specific about the
105 origins and development of these types of systems in comparison with classic ‘obligatory’
106 case systems. We show that diachronic sources of optional markers are largely shared with
107 those of obligatory ones, apart from certain lexical fields, but that factors relating to
108 information structure may have played an important role in the diachrony of optional systems,
109 either as sources or as constructions intervening at some stage in their development. Section 5
110 rounds off with a conclusion.

111

112 **2. Phenomena and terminology**

113

114 This section introduces the basic phenomena, starting with optional and alternating case
115 marking (sections 2.1 and 2.2), where case alternations are determined by the speaker’s
116 choice to construe the participant in a particular way, rather than by any aspect of the structure
117 involved (McGregor 2010). This is followed by a discussion of referent- and construction-
118 based splits in case marking (section 2.3), where changes in case marking are triggered by
119 aspects of the structure, either differences in the referent involved or differences in the larger
120 construction in which the case marker is used. When discussing different types of marking,
121 we use the terms S, A and O as they are traditionally used in typology, i.e. S for the sole
122 argument of an intransitive clause, and A and O (or P, in some traditions) for the more Agent-

123 like and the more Patient-like arguments of a transitive clause (see Haspelmath 2011). We
124 realize that these terms are in fact problematic hybrids (see Mithun & Chafe 1999, McGregor
125 2002 for some of the problems), but in this context we use them as convenient shorthand
126 terms to link with the typological literature we survey here.

127

128 2.1. Optional case marking

129

130 Following Kittilä (2005) and McGregor (2010, 2013), optional case marking can be defined
131 as a situation where a case marker can be present or absent in a particular environment,
132 without affecting the grammatical role of the relevant nominal. In many studies of case
133 marking, this is actually subsumed under a broader category of differential marking of case
134 (e.g. Bossong 1985, Aissen 2003), but in section 3 we will show that there are, in fact, good
135 reasons to distinguish optional marking from situations where two distinct, overt case markers
136 alternate, following McGregor (2010) and Iemmolo (2013). Optional marking is found mainly
137 for A and for O arguments, as illustrated in section 2.1.1 below, but there is also evidence for
138 optional marking of Goal arguments (see further in Kittilä 2008, and in section 4.2). Given
139 that optional marking of case typically conveys additional meanings, some authors in this
140 domain reject the label ‘optional’, or dispute that we are, in fact, dealing with case markers (of
141 specific types). These questions are discussed in more detail in section 2.1.2.

142

143 2.1.1. Optional marking of A and O

144

145 Optional case marking for A arguments is illustrated in the structures in (3) and (4) below,
146 from Kuuk Thaayorre and Mongsen Ao, respectively. Both languages have basic ergative
147 alignment for nominals,² and in neither instance does the absence of a case marker on the A
148 argument affect the grammaticality of the structure. Thus, the nominals without the ergative
149 or agentive markers in (3b) and (4b) function as A arguments just as much as their equivalents
150 with the relevant markers in (3a) and (4a).

151

² Optional ergative marking is the most typical and best-documented type of optional marking for A (see De Hoop & Malchukov 2008), but there are also instances of optional marking of nominatives or subject markers (see McGregor 2010: 1616). See also section 2.1.2 on Burmese as an example of optional nominative marking (Jenny & Hnin Tun 2013), and on Coupe’s (2007) analysis of the Mongsen Ao system, which is slightly different from our interpretation.

152 (3) Kuuk Thaayorre (Pama-Nyungan; Gaby 2008: 126, 124)

153 a. parr-an pul kuta-ku nhaa<nha>m nhunh thatr

154 child-ERG 3DU dog-ERG watch<RDP>:NPST 3SG.ACC frog

155 ‘A boy and a dog are looking at the frog.’

156 b. parr_r nhul thamr puut nhaanham

157 boy 3SG.NOM foot boot look:RDP:NPST

158 ‘The boy looks into the boot.’

159 (4) Mongsen Ao (Tibeto-Burman; Coupe 2011: 157)

160 a. a-hən nə a-tʃak tʃãʔ-əI-ùʔ

161 NRL-chicken AGT NRL-paddy consume-PRES-DECL

162 ‘The chickens are eating paddy.’ [implying that they are stealing it]

163 b. a-hən a-tʃak tʃãʔ-əI-ùʔ

164 NRL-chicken NRL-paddy consume-PRES-DECL

165 ‘The chickens are eating paddy.’

166

167 However, there are other differences in the interpretation of these structures. In the
168 example in (3), the difference relates to information structure: in (3a), the nominals with the
169 ergative marker are unexpected as the A argument, as this is the first time they are mentioned
170 in the narrative, while in (3b) the nominal without the ergative marker is the expected A
171 argument at that point in the narrative, having been introduced in the preceding stretch of
172 discourse (Gaby 2008: 124, 126). In (4), the difference relates to the degree of agentivity: in
173 (4a), the nominal with the agentive marker is construed as intentionally involved in the action
174 expressed by the verb, in contrast with the nominal without the agentive marker in (4b)
175 (Coupe 2007: 156-157). In fact, these two instances exemplify the two most common types of
176 motivations found for optional marking of A arguments: explicit marking of case is associated
177 either with A arguments that are somehow prominent or unexpected (information structure),
178 or with A arguments that are especially potent or agentive (participant involvement). These
179 functional motivations are discussed in more detail in section 3.1 below.

180 Optional marking of O arguments is illustrated in the structures in (5) and (6) below,
181 from Persian and Shua. Both languages have basic accusative alignment for nominals, and in
182 neither case does the absence of an accusative marker affect the role interpretation of the O
183 argument or the grammaticality of the structure as a whole.

184

185 (5) Persian (Indo-European; Lazard 1994: 170)

186 a. ketâb-râ xând-am
187 book-ACC read:PST-1SG

188 ‘I read the book.’

189 b. ketâb xând-am
190 book read:PST-1SG

191 ‘I read a book/books.’

192 (6) Shua (Khoe-Kwadi; McGregor 2016, 2018)

193 a. xam ʔa ti: ʎao-se sa:-ha nggurube ʔa ʎao-a-ta
194 lion ACC 1SGOBL shoot-ADV try-PST warthog ACC shoot-J-PST

195 ‘I tried to shoot the lion, but shot the warthog instead.’

196 b. k’a: khoe katse pa:-ha
197 male person cat bite-PST

198 ‘The man bit the cat.’

199

200 Again, however, the presence or absence of a case marker conveys additional meanings.

201 In Persian, this is associated with definiteness, in the sense that only definite nominals

202 obligatorily receive accusative case, as in (5a) (Lazard 1994: 169-170). In Shua, this is

203 associated with factors like unexpectedness or contrastiveness, as illustrated in (6a) (compare

204 (6b), without a contrastive relation), or the degree of affectedness of the O argument

205 (McGregor 2016, 2018). The association with information structure shown in these examples

206 is a fairly typical one, as will be explained in more detail in section 3.1.

207

208 2.1.2. ‘Optional’ marking, or even ‘case’ marking?

209

210 As already mentioned, not all analysts agree with the characterization of these systems as

211 ‘optional’ marking, nor even as case marking. The objections to ‘optional’ are mainly

212 terminological, because these systems do not actually involve free variation. The objections to

213 analyses in terms of case marking are more serious, however, and have engendered a

214 substantial debate.

215 The term ‘optional’ has become the conventional way to refer to systems of optional A

216 marking,³ ever since McGregor (1989), the first study to point out systematic semantic and

³ Systems of optional O marking, by contrast, have more typically been subsumed under the umbrella term ‘differential O marking’, although more recently some authors have split off optional O marking as a separate and distinct category (e.g. de Hoop & Malchukov 2008,

217 information-structural motivations for what at first sight looked like ‘optional’ use of ergative
218 markers (see also Saxena 1991, Tournadre 1991 for other early observations to this effect). In
219 many of these earlier publications on optional A marking, ‘optional’ was often used with
220 scare quotes, probably to distinguish it from the traditional assumption that case markers
221 could be genuinely optional in a structural sense, i.e. be omitted whenever it was clear who
222 did what to whom (as discussed, for instance, in Dixon 1979: 72-73 or Comrie 1981: 123,
223 who recognized optionality early on⁴ but explained it in terms of a basic discriminatory
224 function of case). Without scare quotes, the term is not entirely felicitous, since it may seem
225 to suggest that the presence or absence of a case marker is a matter of free variation, which is
226 obviously not the situation. However, given that the term has become conventionalized in a
227 large part of the literature, is not clear that any alternative term would be any better, especially
228 in a domain that is already quite crowded terminologically. One alternative, i.e. subsuming
229 optional marking under the umbrella term of differential marking (see footnote 3), is
230 problematic for analytic reasons, as will be shown in section 3. Another alternative, i.e. the
231 formal term ‘asymmetrical marking’ (contrasting with ‘symmetrical marking’, following de
232 Hoop & Malchukov 2008), would obscure the fact that we are dealing with one single marker
233 that can be present or absent, which may have semiotic import (as argued in McGregor 2013;
234 see further in section 3.2).

235 More significantly, some authors have also objected to characterizing these optional
236 systems as case systems, or as case systems with a specific type of alignment (e.g. DeLancey
237 2012, Coupe 2007, Dixon 2002: 132-133). The crucial point here is that in some systems of
238 optional A marking, the optional case marker can also be used for S arguments in some
239 intransitive clauses (see McGregor 2007: 218-219 for a survey).⁵ Among the three systems
240 discussed so far, for instance, this is the case in Kuuk Thaayorre and Mongsen Ao, as shown
241 in (7) and (8) below, but not in Umpithamu, where optional ergative marking is restricted to A
242 arguments.

McGregor 2010, Iemmolo 2013, sometimes using distinct terminology), a choice we follow in this paper. Some authors also use the term ‘differential’ for optional A marking, although this is less widespread than for optional O marking; see de Hoop & de Swart (2008) and Jenny & Hnin Tun (2013) on ‘differential subject marking’, and Malchukov (2008) and Fauconnier (2011) on ‘differential A marking’.

⁴ In fact, optionality of A marking had been observed even earlier in the Australianist tradition, in mid-19th century descriptions of Pama-Nyungan languages, as documented in Stockigt (2016: 149-150).

⁵ Similar extensions are also found in referent-based split systems (see further in § 2.3), e.g. in Nemi (Oceanic, Austronesian), where the ergative marker is used for all A arguments, as well as animate S arguments (Moyse-Faurie 2003).

243

244 (7) Kuuk Thaayorre (Pama-Nyungan; Gaby 2008: 117)

245 parr-an pul kuta-ku ngok-eln wontr

246 child-ERG 3DU.NOM dog-ERG water-DAT fall:NPST

247 ‘The child and the dog fall into the water [together].’

248 (8) Mongsen Ao (Tibeto-Burman; Coupe 2007: 160-161)

249 nì nə akhət

250 1SG AGT cough.PST

251 ‘I coughed.’ [i.e. on purpose, to get your attention]

252

253 A distribution beyond A arguments may suggest that the relevant marker is not an
254 ergative marker, and that we are dealing with something other than a system of optional A
255 marking. This is, in fact, the argument developed in Coupe (2007), who prefers to call the
256 Mongsen Ao marker agentive, in line with its basic semantics of wilful involvement in the
257 activity, rather than ergative, which would be in line with its supposed distribution (see also
258 Chelliah & Hyslop 2011 for similar arguments).⁶ A parallel argument for Kuuk Thaayorre
259 would be to suggest that the relevant marker is in fact an information-structure marker
260 associated with subjects, rather than an ergative marker whose optional use has information-
261 structural meanings (see Gaby 2008: 127-128). However, there are arguments against this
262 conclusion, for both languages. Thus, for instance, Gaby (2008: 128) shows that an
263 information-structural analysis is not viable because the relevant marker is strongly associated
264 with A arguments in contexts of elicitation, to the extent that its use with S arguments is
265 typically rejected out of context. Similarly, Coupe’s (2007: 164) analysis of Mongsen Ao
266 suggests that the agentive marker is in fact rare with intransitive verbs, a skewed distribution
267 that goes against an analysis as a general agentive marker. Similar arguments have been made
268 for other languages, for instance in McGregor (2007), who shows that the occasional use of an
269 ergative marker in intransitive clauses in Warrwa (Nyulnyulan) does not imply that it is an
270 agentive rather than an ergative marker, or in Riesberg (2018), who argues that intransitive
271 uses of the ergative in Yali (Trans-New Guinea) are too rare to affect its characterization as
272 ergative.

⁶ In fact, ‘optional agentive marking’ appears to be the preferred term for Tibeto-Burman languages, rather than ‘optional ergative marking’ (as reflected, for instance, in the terminology used in Chelliah & Hyslop 2011).

273 On the other hand, there are also languages where intransitive uses of apparent ergative
 274 markers do not seem to be exceptional at all, and in some cases may be frequent enough to
 275 call into question their status as ergative. This is the case, for instance, in Kurtöp (Tibeto-
 276 Burman, Hyslop 2010), where ergative markers are common with certain classes of
 277 intransitive verbs; in Sumi (Tibeto-Burman), for which Teo (2018) reports that ergative
 278 markers can be found in elicited intransitive clauses; and in Gurindji Kriol (mixed language),
 279 for which Meakins (2015) argues for a reanalysis of the ergative marker borrowed from
 280 Gurindji (Pama-Nyungan) as an optional nominative marker in Gurindji Kriol. For such
 281 languages an alternative analysis as an optional nominative or subject system may be more
 282 suitable than an optional ergative one. As already mentioned, optional nominative systems are
 283 less well documented than optional ergative ones, but there are some well-attested cases like
 284 Burmese, with a subject marker that can be used both for S, as shown in (9a), and for A, as
 285 shown in (9b), and whose use is motivated by information-structural factors, including
 286 contrastiveness and topicality (as in (9b), where the subject markers in the two clauses co-
 287 vary; Jenny & Hnin Tun 2013: 715-719).

288

289 (9) Burmese (Tibeto-Burman; Hnin Tun & McCormick 2014: 6, Jenny & Hnin Tun 2013:
 290 717)

291 a. cə.má naⁿ.mɛ (ká) ma.la pa
 292 1SG.POSS name SBJ Mala PRT

293 ‘My name is Mala.’

294 b. ʔəme (ká) móun.hniʔ ʔətɛɔ tɛɔ pè, tɛəmá (ká) laiʔ yàun mɛ.
 295 mother SBJ batter fried fry give 1F SBJ follow sell FUT

296 ‘Mother, you fry the batter (for me), I go out and sell it.’

297

298 Interestingly, there are also very rare uses of the same marker on O arguments (Jenny & Hnin
 299 Tun 2013: 699), which may point towards an extension to a general information-structure
 300 marker for topic function. A similar extension has been observed in the ergative system of
 301 Jingulu (Mirndi; Pensalfini 1999), where the ergative marker appears to have been reanalysed
 302 as a focus marker, co-existing with its ergative source.

303

304 2.2. Alternating marking

305

306 In this survey, we contrast optional marking with alternating marking, following a conceptual
 307 distinction made in McGregor (2010) and Iemmolo (2013): instead of the presence or absence
 308 of one single case marker, alternating marking involves an alternation between two distinct
 309 case markers that does not affect grammatical role.⁷ In the literature, what we call optional
 310 and alternating marking have more commonly been subsumed under a broader category of
 311 ‘differential’ marking (e.g. Bossong 1998, Aissen 2003; see also Malchukov & de Swart
 312 2009), which also includes referent-based splits, to be discussed below in section 2.3.1. We
 313 believe that these three categories are best kept apart for analytical reasons, which is also why
 314 we introduce the new label ‘alternating’, to distinguish this category both from ‘optional’ and
 315 ‘differential’. On the one hand, an alternation between two case markers in the same context
 316 is not just formally different from variable use of one single marker, but as will be shown in
 317 section 3, it also has a somewhat different distribution and functional motivation. On the other
 318 hand, alternating marking as defined here is also distinct from referent- and construction-
 319 based split marking, where the alternation is triggered by differences in the structure involved,
 320 i.e. different referents or different constructions (see further in section 2.3).

321 Alternating marking is found, once again, both for A argument and for O arguments. For
 322 A arguments this is quite rare, since, as mentioned just above, alternative markers for A are
 323 usually triggered by differences in referent or construction (see further in section 2.3).
 324 However, there are some examples in the literature, like the alternation found in Warrwa,
 325 where two ergative markers can be used in the same grammatical context, without affecting
 326 grammatical roles. Thus, for instance, the basic ergative marker in (10a) and the focal ergative
 327 marker in (10b) can be used interchangeably, without any effect on the interpretation of the
 328 relevant nominals as the A argument. The only difference between the two lies in the domain
 329 of information structure: the focal ergative marks that the A argument is “both unexpected
 330 and highly agentive” (McGregor 2006: 393), as in (10b), while the neutral ergative is neutral
 331 in this regard (though it is itself optional, and its absence marks defocusing of the A
 332 argument; McGregor 2006: 409-412).

333

334 (10) Warrwa (Nyulnyulan; McGregor 2006: 394, 401)

335 a. yila-na kujuk ø-na-ng-ka-ny-ø warli
 336 dog-ERG swallow 3minNOM-TR-EN-carry-PF-3minACC meat

⁷ A similar distinction is proposed by De Hoop & Malchukov (2008), but with different terms: symmetrical differential marking (two overt case markers) vs asymmetrical differential marking (one case marker that can be present or absent).

337 'The dog swallowed the meat.'

338 b. kaliya yab, ø-na-ndi-ny-ngayu kaliya buka-nma

339 finish away 3minNOM-TR-get-PFV-1minACC finish crocodile-FERG

340 '‘A crocodile has got me,’ (she said).'

341

342 For O arguments, alternating marking is less rare than for A arguments, although most

343 alternations for O are still triggered by differences in referent or construction (see section 2.3).

344 An example of alternating O marking can be found in Evenki, which has an alternation

345 between a definite and an indefinite accusative marker, as shown in (11) below. The choice of

346 the definite or indefinite accusative marker does not have any effect on the role of the relevant

347 nominal as an O argument, but it does mark definiteness of the O argument, as in (11a), as

348 opposed to indefiniteness or partial affectedness of the O argument, as in (11b).

349

350 (11) Evenki (Tungusic; Nedjalkov 1997, cited in Iemmolo 2013: 385)

351 a. oron-mo java-kal

352 reindeer-DEF.ACC take-PRS.IMP.2SG

353 'Catch that reindeer.'

354 b. min-du ulle-ye kolobo-yo by:-kel

355 1SG-DAT meat-INDEF.ACC bread-INDEF.ACC give-IMP.PRS.2SG

356 'Give me (some) meat and (some) bread'

357

358 2.3. Related phenomena

359

360 The systems of optional and alternating case marking discussed so far all have in common

361 that differences in case marking are independent of lexical or morphosyntactic features of the

362 structures involved, and are solely determined by the choice of the speaker to construe a

363 participant in a certain way (e.g. prominent, potent, wilful, partially affected, focused, definite

364 etc). There are other types of optionalities and alternations in case systems, but the crucial

365 point is that in such cases both structure and case marker vary, with changes in structure

366 determining the differences in the use of case markers. In this section, we discuss the two

367 most important categories of such alternations: referent-based splits (section 2.3.1), where

368 differences in case marking are determined by the nature of the referent involved, and

369 construction-based splits (section 2.3.2), where differences in case marking are determined by

370 differences in the larger construction involved.

371

372 2.3.1. Referent-based split marking

373

374 The first type to be discussed here is a pattern in which case alternations occur in one and the
375 same construction, but are determined by differences in the referent, in the sense that one type
376 of referent requires obligatory presence of case marking, whereas another requires obligatory
377 absence, or presence of another case marker. This is, of course, a classic in the typology of
378 case, where referent-based splits in case marking have been linked to hierarchies of referent
379 types based on principles of animacy and/or empathy (e.g. Silverstein 1976, Moravcsik 1978,
380 Tsunoda 1981, DeLancey 1981). Figure 1 represents one of several versions of this hierarchy
381 (see further in section 3.2).

382

383 Figure 1 here

384

385 These types of hierarchies can produce alternations for A and O marking that at first sight
386 look like patterns of optional or alternating case marking discussed above. An example of
387 referent-based split A marking is found in Nêlêmwa, illustrated in (12) below. Nêlêmwa has
388 two different types of ergative markers, one for inanimate A arguments, as in (12a), and one
389 for animate A arguments, as in (12b). Split O marking is illustrated by the Malayalam
390 structure in (13), where accusative marking is obligatory for human O arguments, as in (13a),
391 while it is absent for inanimate O arguments, as in (13b).

392

393 (12) Nêlêmwa (Austronesian; Brill 1997: 379)

394 a. doi-na ru cacia

395 sting.TR-me ERG.INAN acacia

396 'The acacia stung me.'

397 b. i tûûlî pwaxi eli a kaavo

398 she dry child that.ANAPH ERG.AN Kaavo

399 'Kaavo dried the child.'

400 (13) Malayalam (Dravidian; Asher & Kumari 1997: 203)

401 a. avan kutti-ye aticcu

402 he child-ACC beat.PST

403 'He beat the child.'

404 b. jaan teenṅa vaṅṅi

405 I coconut buy.PST
406 'I bought some coconuts.'

407

408 The structure in (12) superficially looks like alternating marking for A arguments, while
409 that in (13) looks like optional marking for O arguments. However, these cases are both
410 logically and functionally distinct from the optional and differential systems described above.
411 They are logically distinct because it would not be possible, in either case, to have these case
412 alternations for one and the same referent, which is the defining feature of optional and
413 alternating systems. They are also functionally distinct, because their functional motivation
414 relates to differences in animacy (and, in the classic explanation, the associated likelihood of
415 serving as A and O; see further in § 3.1), rather than to information structure or participant
416 affectedness, which motivate optional and alternating systems.

417 Of course, this is not to say that referent-based splits are completely unrelated to optional
418 and alternating systems. There are a number of links between the two types. First, optional
419 systems in particular are often also partially split. This is the case, for instance, for
420 Umpithamu, where ergative marking is obligatory for inanimate nominals and optional for all
421 other nominals (with the motivations discussed in example (1) above), as illustrated in (14)
422 below. Thus, one and the same language can have both a referent-based split and an optional
423 system.

424

425 (14) Umpithamu (Pama-Nyungan; Verstraete fn)

426 a. aykirri-mpal /*aykirri umpa-n=ilu-ungku yuku

427 wind-ERG / *wind break-PST=3SG.NOM-3SG.ACC tree

428 'The wind knocked down the tree.'

429 b. ama(-mpal) umpa-n=ilu-ungku yuku

430 person(-ERG) break-PST=3SG.NOM-3SG.ACC tree

431 'The man knocked down the tree.'

432

433 Secondly, referent-based splits can also be probabilistic rather than obligatory, thus
434 shading into optional systems. For instance, Verbeke & Decuyper (2015) argue that for
435 Nepali (Indo-European), the use of ergative marking is partly split on the basis of animacy
436 principles, i.e. referent-based, but in a probabilistic rather than an absolute way: in
437 imperfective tenses, ergative marking is more typical for inanimates, and less typical for
438 animates. Similarly, Schultze-Berndt (2017) shows that for Jaminjung (Mirndi), the use of

439 the ergative marker is determined not just by referent-related factors such as animacy and
440 person, but also by information structure (as in the optional ergative systems discussed in
441 section 2.1.1 above) and tense/aspect and verb class (as in the construction-based splits to be
442 discussed in section 2.3.2). Again, the different factors interact in a probabilistic way, as
443 shown in Schultze-Berndt & Meakins (2017).

444 This type of shading between types suggests that referent-related splits and optional
445 systems could ultimately be linked functionally and/or diachronically, with a more general
446 principle of expectedness linking animacy-based degrees of expectedness as A and O with
447 focality and agentivity (see further in sections 3 and 4). From a synchronic, typological
448 perspective, however, the two categories are logically distinct, and there is little to be gained
449 by lumping them together as one type. In fact, keeping them as separate categories is a
450 precondition for discovering any functional links there may be.

451

452 2.3.2. Construction-based splits

453

454 The second type to be discussed here is the structural opposite of the first: construction-based
455 splits are case alternations that are not determined by referent type, which in principle can
456 remain constant, but by differences in the larger construction in which the case marker occurs.
457 These include valency changes that actually determine changes in syntactic role, and therefore
458 also case switches, but also other construction-level features that determine switches in case
459 but not in role, such as distinctions in tense, aspect, polarity or mood marking.

460 An example of the first type is the case alternation illustrated in the Guugu Yimidhirr
461 structures in (15) below. At first sight, this may look like an instance of alternating A
462 marking, with nominative in (15a) and adessive in (15b) alternating to express volitional
463 versus accidental instigation of an event. Importantly, however, case marking is not the only
464 aspect of these structures that is different. Verbal morphology is also different in the two
465 structures, with the structure in (15b) showing a reflexive marker on the verb (which can
466 actually be analysed as a general intransitivizer, see Verstraete 2011). In other words, we are
467 dealing with different constructions, a basic transitive one in (15a) and an intransitivized one
468 with a reflexive marker in (15b). From this perspective, the case alternation in (15) does not
469 meet the basic criterion for alternating case marking as defined in section 2. 2 above: the
470 constructional context differs, and accordingly also the syntactic role of the case-marked
471 elements (the adessive-marked nominal is not an A, see Verstraete 2011).

472

473 (15) Guugu Yimidhirr (Pama-Nyungan; Haviland 1979: 125)

474 a. ngayu galga nhanu dumbi
475 1SG.NOM spear 2SG.GEN break.PST
476 'I broke your spear (on purpose).'

477 b. ngadhun.gal galga nhanu dumbi-idhi
478 1SG.ADESS spear 2SG.GEN break.PST-REFL
479 'I broke your spear (accidentally).'

480

481 A comparable example is the East Futunan structure in (16) below. Again, at first sight
482 this looks like alternating A marking, with an alternation between ergative and possessive
483 marking to background the A role in polite contexts (Moyses-Faurie 2000, 2011). As with the
484 Guugu Yimidhirr structure, however, there are other changes at the construction level that
485 indicate that the basic transitivity of the structure has changed: the genitive-marked argument
486 in (16b) actually forms a possessive phrase with the equivalent of the O argument, and this
487 whole phrase is marked as absolutive. In other words, these structures again do not meet the
488 basic criterion for an alternating system, because case alternations correlate with broader
489 morphosyntactic differences between constructions: these differences affect syntactic roles,
490 and accordingly also determine differences in case marking.

491

492 (16) East Futunan (Austronesian; Moyses-Faurie 2011: 593)

493 a. e feave'aki e Atelea ana fakapaku i lamatu'a
494 NS peddle ERG Atelea his doughnut LOC road
495 'Atelea peddles his doughnuts along the road.'

496 b. e feave'aki a fakapaku a Atelea i lamatu'a
497 NS peddle ABS doughnut POSS Atelea LOC road
498 'Atelea peddles his doughnuts along the road.'

499

500 The structures in (15) and (16) are relatively minor patterns typologically (see further in
501 Verstraete 2011 on structures like (15) and Duranti & Ochs 1990, Moyses-Faurie 2000, 2003
502 on structures like (16)), but there are a number of classic alternations in the typology of case
503 that are equally triggered at the level of the construction, even though these do not always as
504 clearly affect syntactic roles. One of these concerns case alternations triggered by differences
505 in tense, aspect or mood values (see further in DeLancey 1981, Malchukov & De Hoop 2011).
506 An example is provided in the Kurdish structures in (17) below, where both the marking of

507 the A argument and the O argument alternate depending on whether the clause is in the past
508 (17a) or present (17b). Similarly, alternations can be triggered by aspectual distinctions (e.g.
509 Nepali, where ergative marking is obligatory in perfective tenses and optional in imperfective
510 ones, see discussion in section 2.1 above) or mood-related ones (e.g. Finnish, where
511 accusative marking is absent in imperative clauses, see Malchukov & de Hoop 2011; see
512 further in section 3.1.1 below).

513

514 (17) Kurdish (Indo-European; Matras 1997: 617-618)

515 a. min tu dît-î

516 I-OBL you saw-2SG

517 'I saw you.'

518 b. ez te di-bîn-im

519 I you-OBL PROG-see-1SG

520 'I see you.'

521

522 Another well-known case in this domain are instances of so-called 'hierarchical' or
523 'inverse' alignment, where alternating markers cannot be assigned to any one argument, but
524 are triggered by the specific configuration of the two main arguments involved (Klaiman
525 1992, Zuñiga 2006, Jacques & Antonov 2014, Haude & Witzlack-Makarevich eds 2016). A
526 classic example comes from Cree, illustrated in (18) below, where a configuration of first
527 person acting on third triggers a direct marker, as in (18a), while a configuration of third
528 person acting on first triggers an inverse marker, as in (18b).

529

530 (18) Cree (Algonic; Klaiman 1992: 228)

531 a. ni-waapam-aaw-ak

532 1-see-DIR-3PL

533 'I see them.'

534 b. ni-waapam-ikw-ak

535 1-see-INV-3PL

536 'They see me.'

537

538 The examples discussed in this section are quite diverse in their own right, but from the
539 perspective of optional and alternating case marking as described above, they all illustrate the
540 same structural phenomenon, viz. case alternations that are triggered by construction-level

541 features. As will be shown in section 3, some of these case alternations are quite easily
542 confused with patterns of alternating case marking, so it is important to mention them in this
543 survey. In some cases, they can also co-occur with patterns of optional or alternating marking,
544 as in the case of aspect-based splits, which are found in combination with optional ergative
545 patterns in Tibeto-Burman (e.g. DeLancey 1990, 2012 on Lhasa Tibetan) and in neighbouring
546 Indo-Aryan languages such as Hindi-Urdu (Butt 2006) and Nepali (e.g. Verbeke & Decuyper
547 2015).

548

549 2.4. Summary

550

551 Table 1 below summarizes the basic distinctions made so far, which as already mentioned
552 largely follow the conceptual distinctions drawn in McGregor (2010) and Iemmolo (2013).
553 On the one hand, there are case alternations that are independent of any lexical or
554 morphosyntactic conditions, and can in principle apply to one and the same element in one
555 and the same construction. Within this category, optional systems have a single marker that
556 can be present or absent, and alternating systems show an alternation between two overt case
557 markers. On the other hand, there are also case alternations and optionalities that are triggered
558 by differences in the referent or differences in the larger construction. These are known as
559 referent-based splits and construction-based splits, respectively.

560

561 Table 1 here

562 In the following section, we discuss functional generalizations proposed in the literature for
563 each of these types individually, as well as the relations between them. This will also make
564 clear why we fix these particular boundaries between types (again following McGregor 2010,
565 Iemmolo 2013), even if some of these choices are different to a certain extent from some of
566 the literature on the topic, as has been highlighted at various points.

567

568 **3. Functional and typological generalizations**

569

570 This section surveys what is known about the typology of optionalities and alternations in
571 case systems. In section 3.1, we focus on optional and alternating case marking as defined in
572 the previous section, and we show that traditional unified explanations of the two cannot be
573 maintained in light of recent research. Instead, we first show that optional marking should be
574 distinguished from alternating marking, and second that phenomena relating to the marking of

575 A are not automatically mirrored for O, as is predicted by the classic analysis of markedness
576 relations underlying referential hierarchies. In section 3.2, we focus on how optional and
577 alternating marking relate to referent- and construction-based splits. This leads to a number of
578 diachronic questions, which are further elaborated in section 4, on the origins of optional case
579 markers.

580

581 3.1. Optional and alternating marking

582

583 The classic typology of case offers a relatively unified framework to deal with what we have
584 called optional and alternating case marking. This framework is based on two principles. On
585 the one hand, what we call optional and alternating marking of case are usually subsumed
586 under the umbrella term of differential marking (together with referent-based splits), and not
587 accorded any special status beyond their basic formal difference. This is clearest for the
588 marking of O arguments, where a single category of ‘differential’ O marking is the dominant
589 option, but even for A marking, where optional marking is a more frequent terminological
590 choice, it is rare to find a principled distinction between optional and alternating marking (as
591 mentioned in Malchukov & de Swart 2009; see further in section 2.2). On the other hand,
592 referential hierarchies like the one proposed in Silverstein (1976) and subsequent work predict
593 that A marking and O marking are each other’s “mirror image” (as it is labelled in de Hoop &
594 de Swart 2008: 6) following a principle of markedness reversal, as shown in Figure 2: what is
595 typical for A arguments is atypical for O arguments, and the other way around (e.g. Comrie
596 1981, Aissen 2003, Naess 2006).

597

598 Figure 2 here

599

600 Thus, principles proposed for differential marking of O, like partial affectedness, are predicted
601 to be mirrored in their opposite for differential marking of A, and vice versa (see Fauconnier
602 & Verstraete 2014 for an overview and critique of this approach to case marking). These two
603 principles are visualized in Table 2 below: if one of the four basic cells can be explained, this
604 explanation can be extended to the whole domain, first because optional and alternating
605 marking are regarded as mere formal variants within a basic category of differential marking,
606 and secondly because whatever principle is recognized for A (or O) will be mirrored in an
607 opposite principle for O (or A).

608

609 Table 2 here

610

611 In this section, we show that recent typological work on optional and alternating marking for
612 A and O does not conform to this unified model, and suggests a more differentiated approach.
613 We first survey typological work on the four different types, i.e. optional A marking, optional
614 O marking, alternating A marking and alternating O marking (section 3.1.1), and then return
615 to what this says about the traditional unified model (section 3.1.2).

616

617 *3.1.1. Typological survey*

618

619 To begin with optional A marking, the literature offers a clear set of generalizations, about
620 distribution and about function (see McGregor 2010, and the papers in McGregor &
621 Verstraete eds 2010, Chelliah & Hyslop eds 2011-2012). As to distribution, optional A
622 marking is not rare: McGregor (2010) lists over 100 languages with optional ergative marking
623 (plus rarer instances of optional nominative marking), and estimates that about 10 % of
624 morphologically ergative languages show optional ergativity. These are not distributed evenly
625 across the world, however: there are two clear hotbeds of optional ergativity, one in the
626 Australia-New Guinea region (see also Foley 2000: 374-375), and one in Tibeto-Burman
627 languages (see also LaPolla 1995). As to function, the old idea that omissibility of A marking
628 is mainly found in contexts with little chance of confusing A and O (e.g. Dixon 1979: 72-73,
629 LaPolla 1995: 215-216) is now largely abandoned.⁸ Instead, two clear clusters of motivations
630 have emerged (see McGregor 2010, Chelliah & Hyslop 2011).

631 First, there is a set of motivations relating to information structure: the presence of A
632 marking is motivated by informational prominence for the A argument. This is a notoriously
633 slippery term, of course, but we can distinguish two major types of prominence here (see
634 further in Verstraete 2010: 1647-1648). On the one hand, there are ‘local’ types of
635 prominence, where the presence of A marking is associated with focus on the A argument,
636 often set off against a presupposition in the immediately preceding discourse, as in contrastive
637 focus contexts and question-answer sequences. On the other hand, there are also more ‘global’
638 types of prominence, where the presence of A marking is sensitive to expectations about A

⁸ See Plank (1980) for an early analysis of problems with distinguishability as a motivating principle for case systems in general. For optional case marking, there is one domain where distinguishability may still play a role, viz. in imperatives, where the inherent identifiability of the A argument may lead to optionalities for A or O marking (Plank 1980, Malchukov & de Hoop 2011).

639 arguments in larger chunks of discourse (see McGregor 1992, 2006), such that the expected A
640 argument for an episode is left unmarked after its introduction, but any deviations from the
641 expected A within the episode are marked. Second, there is also a set of motivations relating
642 to degrees of agentivity, such that marking for the A argument is associated with control,
643 potency or volitionality in its involvement in the activity. In some languages, this goes hand in
644 hand with degrees of patientivity, in the sense that a strongly affected O argument can also
645 trigger marking for the A argument (e.g. McGregor 1992: 284-285). None of these
646 motivations are mutually exclusive. The optional A system in a language can involve all of
647 the above (e.g. in Kuuk Thaayorre, Gaby 2008), some (e.g. in Mongsen Ao, where agentivity
648 and expectedness seem to play a role, Coupe 2007), or only one (e.g. in Umpithamu, where
649 only focus plays a role for optional ergative marking, Verstraete 2010). And where more than
650 one type of motivation is available, they can reinforce each other in individual cases (see
651 Gaby 2008).⁹ Obviously, there is also some discussion in the literature about whether these
652 two sets of factors (information structure and degrees of agentivity) could be reduced to one
653 single feature, as will be discussed in more detail in section 3.1.2 below.

654 Optional O marking has a longer tradition in the typological literature than optional A
655 marking, with Comrie (1979) and Bossong (1985) as prominent early studies (though, as
656 mentioned earlier, using the umbrella term ‘differential marking’). In more recent work,
657 Iemmolo (2011) offers a sample-based typological study of the phenomenon, and in Iemmolo
658 (2013) this is explicitly distinguished from, and contrasted with, differential O marking as
659 defined in this paper (using the terms ‘asymmetric’ and ‘symmetric’, respectively, following
660 de Hoop & Malchukov 2008). All of the studies in this tradition also include patterns of
661 referent-based split marking, especially based on animacy, which in this study is regarded as a
662 distinct type. If we factor in these differences, we can derive the following generalizations
663 from the literature. First, optional O marking is not rare, and probably more frequent than
664 optional A marking. Bossong (1991: 154) claims that this type is relatively stable in the
665 development of case marking systems and “represents a preferred target of diachronic
666 evolution”. Similarly, in a large-scale survey, Sinnemäki (2014) suggests that systems of O
667 marking with some form of optionality are more frequent than systems without it,¹⁰ a
668 generalization that holds even if we leave out referent-based splits from his figures. Second,

⁹ As already mentioned, there are also systems where these factors interact in a probabilistic way with factors determining referent- or construction-based splits, as demonstrated by Schultze-Berndt & Meakins (2017) for Jaminjung.

¹⁰ Sinnemäki’s survey does not include signed languages, but Börstell (2017) adds Swedish Sign Language to the set of languages showing optionality in O marking.

669 unlike with optional A marking there is no clear areal pattern (Sinnemäki 2014). While some
670 genetic units have attracted particular attention in the literature (e.g. Romance or Sinitic),
671 there are no clear areal hotbeds as with optional A marking.

672 As to functional motivations, finally, there are three clear clusters that emerge from the
673 literature (see Iemmolo 2011 for an overview). One relates to animacy, in the sense that
674 explicit marking of O is associated with animate and/or human O arguments. In terms of our
675 typology, this is usually a matter of referent-based splits (see (13) above) rather than optional
676 marking. As mentioned above, however, in some cases the distribution over animacy types
677 appears to be probabilistic rather than absolute and can therefore shade into optional marking
678 (see further in section 3.2). The second cluster of motivations relates to information structure
679 in a broad sense, with case marking being associated with O arguments that are definite, given
680 or topical. Of these factors, topicality has engendered most debate, with at least two senses in
681 which aspects of topichood are said to correlate with O marking: either as sentence-level
682 topichood, traditionally defined in terms of ‘aboutness’, motivating optional O marking
683 (Dalrymple & Nikolaeva 2011), or as topic shifts or topic promotions motivating optional O
684 marking (Iemmolo 2011: 216-217). Iemmolo (2011) explicitly argues against sentence-level
685 topichood as a motivating factor, but it is interesting to note that the contrast between the two
686 approaches involves the same distinction between ‘local’ and ‘global’ information structure as
687 found with prominence for A marking. A final cluster of motivations found in the literature
688 relates to affectedness, with case marking being associated with (degree of) affectedness for O
689 arguments. The relevance of this factor for what we call optional O marking is actually
690 dismissed in Iemmolo (2011: 116, 220ff), who argues that most cases where it is proposed can
691 be handled more efficiently in terms of information structure (see also Luraghi & Kittilä 2014
692 on diachronic links between affectedness and information structure). It does appear to be a
693 robust independent factor, however, in Sinitic (Chappell 2013), as well as in several West
694 African languages (e.g. Lord 1993); this is discussed in more detail in section 4.2.2 below,
695 which deals with O marking deriving from ‘take’ verbs. As with optional A marking, the
696 different types of motivations can co-exist in a single system, although at least definiteness
697 appears to be rare as a motivation on its own (Iemmolo 2011: 133-134).

698 Alternating O marking as defined here, i.e. involving an alternation between two different
699 case markers in the same context, is relatively rarely distinguished from optional O marking,
700 and even more rarely studied in its own right. The two phenomena are distinguished on
701 theoretical grounds in de Hoop & Malchukov (2008), and they are studied contrastively in a
702 sample-based analysis in Iemmolo (2013), in both cases using different terminology

703 ('asymmetric' and 'symmetric' marking for what we call optional and alternating marking,
704 respectively). Iemmolo's results show that alternating O marking is relatively rare, definitely
705 much rarer than optional O marking, and that its distribution is quite specific, limited to the
706 Circum-Baltic area, Kartvelian languages and Polynesian languages, as well as some older
707 Indo-European languages (Iemmolo 2013: 380-381). In functional terms, his study shows a
708 broad range of functional motivations, which can be divided into two sets. One set involves
709 clause-level triggers for alternations in O marking, like specific values for polarity or aspect.
710 From the perspective of our typology, these are construction-based splits rather than
711 genuinely alternating systems, since the case alternation is triggered by construction-level
712 features. The second set involve genuine alternating O marking, with its own semantics, either
713 a value of participant affectedness (complete versus partial affectedness, as in the Finnish
714 example in (2)) or one of definiteness (as in the Evenki structure in (10)).

715 Alternating A marking, finally, is again rarely studied in its own right. McGregor (2010:
716 1615) identifies a few instances, as do Fauconnier (2011), Fauconnier & Verstraete (2014)
717 and Hemmings (ms). The literature has, in fact, identified some more examples under the
718 label of differential A marking, but these are usually instances of something else in our
719 typology. Alternations based on animacy are usually instances of referent-based splits, as was
720 the case for the Nêlêmwa structure in (12), while alternations involving volitionality are
721 usually construction-based splits, as was the case for the Guugu Yimidhirr structure in (15).
722 The handful of instances that remain after these have been weeded out, are motivated in terms
723 of potency, volitional involvement or focus (see McGregor 2010: 1615).

724

725 3.1.2. A more differentiated model

726

727 Table 3 here

728

729 Table 3 summarizes the generalizations that can be derived from the typological literature
730 about optional and alternating marking. We can now use these results to revisit the unified
731 model discussed in the introduction to this section, which was based on the combination of
732 two principles: (i) a largely undifferentiated category of differential marking, subsuming both
733 optional and alternating marking, and (ii) the mirror image principle predicting a naturally
734 inverse relation for differential A and O marking.

735 The first principle is not supported for O marking: optional and alternating marking are
736 quite different, and should be distinguished. This is, in fact, the point made in Iemmolo (2013)

737 on typological grounds, as well as in DeHoop & Malchukov (2008) on theoretical grounds.
738 Alternating marking is not only rarer than optional marking, but also has somewhat different
739 functional motivations: while definiteness and affectedness can play a role in both (though
740 this is disputed for affectedness, see Iemmolo 2011), topicality does not play a role in
741 alternating marking. The principle could in theory be said to be supported for A marking,
742 since roughly similar functional motivations seem to be involved, but in general alternating A
743 marking has a very limited distribution, with so few instances to be almost inexistent in our
744 typology. Overall, therefore, we can say that the first principle is not really supported by the
745 data. This is also the reason why, following the distinctions made in McGregor (2010) and
746 Iemmolo (2013), we decided to consistently distinguish between optional marking, where one
747 marker can be present or absent, and alternating marking, where two different markers are
748 involved.

749 The second principle, i.e. the mirror image principle, does not seem to be supported for
750 either optional or alternating marking. The motivations involved for A and O in either case
751 are quite different. While there are some general functional links (for instance, both have an
752 ‘information structure’ type of motivation), these are not specific enough to support any
753 mirror image principle. Topicality for O could hardly be said to be the mirror image of focus
754 for A, for instance. This is, in fact, the point made by de Hoop & Malchukov (2008) and
755 Fauconnier & Verstraete (2014), who develop an argument against the mirror image approach
756 to A and O using evidence from optional and alternating case marking (though both are called
757 differential in these studies).

758 Going beyond these two principles, there is also a proposal in the literature that ascribes a
759 more schematic meaning to optional marking as distinct from other types of marking,
760 regardless of whether it affects A or O. McGregor (2006, 2010, 2013) argues that optional
761 marking is special among case systems because it involves a contrast between the presence
762 and absence of a sign, which on semiotic grounds could be said to have a general type of
763 meaning that is distinct from contrasts between two different signs. Specifically, McGregor
764 argues that the type of meaning involved in optionality is interpersonal, relating to general
765 cognitive principles of joint attention, i.e. prominence (“whether or not [the referent] is
766 accorded particular attention within the frame”) and backgrounding (“whether or not [the
767 referent] is presumed to be in the frame of joint attention”, McGregor 2013: 1157). McGregor
768 (2010, 2013) demonstrates how this approach can be used to typologize quite subtle
769 differences in the meanings of optional case marking systems.

770

771 3.2. Related phenomena

772

773 As mentioned earlier, optional and alternating case marking can co-occur with referent-based
774 splits, and they can be superficially similar to construction-based splits. In this section, we
775 examine how exactly the categories relate to each other in functional terms. Before we can
776 answer this question, however, it is necessary to briefly revisit the basics of referent- and
777 construction-based splits marking, as the classic typology of this domain has been subject to
778 serious challenges in recent work.

779 Referent-based splits are probably the best-studied of the two types, very well-studied for
780 individual languages, and with a classic generalization in the form of the referential hierarchy
781 (Silverstein 1976, DeLancey 1981, Tsunoda 1981; see also Figures 1 and 2 above). As already
782 mentioned, this hierarchy is usually motivated in terms of markedness, such that what is
783 semantically unusual gets formally marked. For instance, in the most typical example,
784 nominals with inanimate referents are marked in A roles, and receive ergative marking, while
785 1st person pronouns are marked in O roles, and receive accusative marking. The same type of
786 hierarchy has also been used as a generalization for so-called hierarchical alignment (one of
787 our types of constructionally determined case marking), where participant configurations
788 triggering different types of marking have been analysed in terms of going with or against the
789 direction of the hierarchy, e.g. first person acting on third versus third on first as in the Cree
790 example in (18) above. While no one would dispute the analyses of referent-based splits in
791 individual languages, the question is whether the hierarchy proposed to underly the splits
792 really holds as a generalization. Bickel et al. (2014) subject various versions of the hierarchy
793 to a large-scale typological test, showing that they are not tenable as a universal, even a
794 statistical one, and that instead they are areal features, with strong evidence in Australia-New
795 Guinea and Eurasia, but relatively little evidence elsewhere. Taking a different perspective,
796 Cristofaro (2013) shows that hierarchies which look like a valid generalization synchronically
797 may in fact be composite diachronically, with different parts deriving from quite different
798 historical sources, and often involving principles that are quite different from the functional
799 principle supposed to underly the hierarchy.

800 The usefulness of hierarchies has also been questioned as a generalization for so-called
801 hierarchical alignment. Witzlack-Makarevich et al (2016) argue that these systems are more
802 usefully analysed in terms of a basic feature of co-argument sensitivity, where marking for
803 one participant depends on the nature of other participants in the same clause. This re-analysis
804 also brings it more closely in line with other types of alignment, not just referent-based splits

805 (Witzlack-Makarevich et al. 2016: 557-558), but also patterns of optional and alternating
806 marking as defined here (see, for instance, semantic motivations for optional ergative marking
807 as discussed in section 3.1.1, which can originate both in agentivity features of A and
808 patientivity features of O). Other types of constructionally differentiated case marking,
809 specifically TAM-based types, have received relatively less attention in recent work. The
810 classic generalization is that values of perfective or past trigger ergative patterns, while
811 imperfective or present trigger accusative patterns (Dixon 1994), often explained in terms of a
812 feature of O-centredness for past and perfective construals of an event, versus A-centredness
813 for present and imperfective construals (DeLancey 1981). There have been a number of
814 refinements in the typology, especially Malchukov (2014), who proposes a more extensive
815 scale of tense-aspect-mood values, and Coon (2013), who argues that presumed mood-based
816 splits are actually better analysed as other types of split, but not the radical critique observed
817 above for referential hierarchies.

818 Given this re-calibration of the field, how do referent- and construction-based splits relate
819 to optional and alternating marking as discussed in this paper? To begin with referent-based
820 splits, this pattern often co-occurs with optional marking in one and the same language, as
821 exemplified earlier for Umpithamu, where ergative case is obligatory for inanimate nominals,
822 and optional for all other nominals. This specific distribution is confirmed by the broader
823 typological surveys of McGregor (2010: 1616-1617) for A marking, and Iemmolo (2011: 80)
824 for O marking. While co-occurrence does not mean the two types are not logically distinct, it
825 does strongly suggest there may be a link between them – as also suggested by the occurrence
826 of apparently probabilistic realizations of animacy-based splits as in Nepali, and partly also in
827 Jaminjung. Links could be sought in functional-typological generalizations, for instance,
828 adapting McGregor's (2013) argument about generalized meanings of optionality to referent-
829 based splits, or using preferred argument structure to link animacy principles with discourse
830 structure (Du Bois 1987, but see also Haig & Schnell 2016), or using OT-style mechanisms
831 with generalized constraints to incorporate both animacy-based and prominence-based
832 phenomena (e.g. de Hoop & Malchukov 2008). Given that the explanatory value of animacy-
833 based hierarchies can be questioned, however, it may also be useful to look elsewhere,
834 specifically at diachrony (see also Cristofaro 2013, Cristofaro & Zuñiga eds 2018). There are
835 a number of suggestions in the literature that obligatory systems of case marking (whether
836 split or not) could have grammaticized out of optional systems. This argument has been made
837 most strongly for O marking, for instance by Iemmolo (2011), whose general argument is that
838 O markers in optional systems often originate in topic-related markers, and that animacy-

839 based splits may be grammaticized from such topic-based systems, given that animate and
840 definite NPs are most likely to be topical (see also Dalrymple & Nikolaeva 2011). Similar
841 arguments have been made for A marking, for instance by Gaby (2010), who shows how
842 ergative marking in Kuuk Thaayorre may derive from focal types of marking, and McGregor
843 (2008, 2017), who argues that focalizing constructions with indexical markers may be at the
844 origin of some Australian ergative markers. These links will be further elaborated in section 4,
845 on the diachrony of optional and alternating marking.

846 Construction-based splits do not necessarily co-occur with optional and differential
847 marking, but in some cases they can be hard to distinguish from them. The basic criterion we
848 used so far is whether optionalities and alternations are triggered by construction-level
849 features or not, as demonstrated for the Guugu Yimidhirr structures in (15) above, where an
850 apparent pattern of alternating marking is actually triggered by differences in formal
851 transitivity. In cases like these, it is easy to show that we are not dealing with alternating
852 marking: alternating marking concerns case alternations that do not affect grammatical roles,
853 whereas the change in transitivity coded by the reflexive marker in Guugu Yimidhirr does
854 imply that basic grammatical roles are different. The question is, however, where one should
855 draw the boundary. Not all construction-level features affecting case marking have an effect
856 on grammatical roles, and in some cases such features can even be in line with the
857 motivations typically associated with optional or alternating marking. A case in point is
858 Iemmolo (2011: 216), whose study shows that what looks like optional O marking often goes
859 hand in hand with specific constructional features marking topicality, like differences in
860 prosody or word order (see, for instance, the discussion of optional O marking in section 4.2).
861 In a strict application of the typology proposed here, these are construction-based splits, with
862 constructional marking of topicality (e.g. in terms of word order) triggering the use of O
863 markers. However, from the perspective of diachronic hypotheses about the origins of
864 optional O marking (as discussed in the previous paragraph), an association between
865 topicality marking and the use of O marking is not very surprising. In that sense, such
866 structures could in fact be regarded as standing in between construction-based splits and
867 optional marking, revealing yet another pathway of grammaticization towards optional
868 marking. The status of TAM-based patterns of constructionally differentiated marking,
869 finally, remains unclear at the time being. On the one hand, the relevant differences do not
870 appear to affect grammatical roles, which distinguishes it from the Guugu Yimidhirr
871 structures in (15). On the other hand, however, it is also not immediately clear how these
872 patterns would link up with any of the features motivating optional and alternating marking,

873 except in a general way in ‘perspectival’ theories that link tense-aspect values with A- and O-
874 centredness (there are also specific links between aspect and features like affectedness that
875 figure in optional O marking, see Iemmolo 2013, Luraghi & Kittilä 2014).

876 To conclude, we can say that referent- and construction-based splits are logically and
877 typologically distinct from the patterns of optional and alternating marking that are the focus
878 of this study, but not completely unrelated. In particular, the typological literature suggests
879 quite a few diachronic pathways that may link them. These are explored in more detail in the
880 next section, which focuses on the diachrony of optional and alternating marking.

881

882 **4. Diachronic origins**

883

884 In this section, we discuss what is known about the diachronic development of optional and
885 alternating case marking. The focus will be on optional systems, as these are more common
886 and more uniform typologically than alternating ones (as discussed in section 3.1). The main
887 question we address is whether there is anything specific about these kinds of systems that
888 makes their origins or their development different from classic ‘obligatory’ types of case. We
889 tackle this question from two perspectives. On the one hand, we show that the origins of
890 optional markers are not necessarily different from other types of case systems. If we look at
891 families where optional ergativity is widespread, for instance, like Tibeto-Burman, the origins
892 of ergative markers include some of the classic sources for case markers found elsewhere, like
893 various types of non-core cases. On the other hand, we also show that there may be sources
894 that are more specific to optional systems. In particular, the distinctive functions associated
895 with optional A or O marking have led some authors to posit origins in syntactic constructions
896 linked to these functions, for instance, in focus markers associated with information structure.
897 This has added a number of specific source domains to the literature, which make sense in
898 terms of the synchronic function of optional markers, and may in fact be specific to optional
899 systems (though some types have also been discussed for case systems in general, see
900 Lehmann 2002: 100-107). Along with the diachronic specificity of optional systems, a
901 secondary question we address is whether there is any diachronic relation between optional
902 and ‘obligatory’ systems of case, and if so, in what direction. This is a question that comes up
903 regularly in the literature, but has not really received a definitive answer, except in cases
904 where recent change can be tracked (like contact varieties, young people’s varieties or
905 contexts of obsolescence, e.g. McGregor 2017: 462-463). We discuss these questions in two
906 sections, one devoted to A marking (section 4.1) and one devoted to O marking (section 4.2).

907 Before moving on to the origins of markers in optional systems, we first provide a brief
908 survey of the main sources of case marking in general, as they have been discussed in the
909 literature. In the classic studies on case (e.g. Lehmann 2002: 97-107), there appears to be a
910 consensus that case markers generally arise from adpositions, which in turn have their source
911 in nouns and verbs and to a lesser extent in adverbs and particles. Typically it is the non-core
912 cases, above all local cases, which provide the source for the core cases at the heart of our
913 study. Thus, nouns give rise to adpositions and case affixes, producing markers of non-core
914 roles such as instrumentals, locatives, ablatives and allatives, while verbs in series typically
915 give rise to adpositions, similarly coding non-core roles (Blake 2004: 161-167). The degree of
916 grammaticalization involved may be high, which means that in the majority of languages with
917 case markers, it is usually no longer possible to trace the original source, testifying to their
918 “long ancestry” (Blake 2004: 161, 172). This is also apparent in the highly fused nature of
919 portmanteau morphemes which incorporate case, number, gender and other grammatical
920 features (see also Lehmann 2002: 132 on coalescence as a parameter of grammaticalization).
921 In other words, core case markers generally represent the end process of different kinds of
922 secondary grammaticalization, that is, further stages in the grammaticalization chain for
923 elements that have already lost their lexical status (as coined by Givón 1991: 305, based on
924 Kurylowicz 1965: 22). Consequently, attested instances are rare of any single, direct step
925 from a lexical source or local case to the core cases of ergative or accusative.

926

927 4.1. Optional A marking

928

929 4.1.1. Classic source domains for A

930

931 Lehmann (2002) proposes a set of grammaticalization chains to explain some cross-
932 linguistically recurrent patterns of polysemy that point to common pathways for the genesis of
933 A and/or S markers. These are illustrated in Figure 3 below (partly reproduced and adapted
934 from Lehmann 2002: 99).

935

936 Figure 3 here

937

938 According to this schema, the classic sources for ergative markers include non-core cases like
939 instrumental, ablative, genitive, and locative (see also Blake 2004, Cristofaro 2013, McGregor
940 2008, 2017, Narrog 2014). In this section, we show that most of these pathways are also

941 found for case markers in optional A systems, which suggests that the origins of ergative
942 markers in such systems need not be different from those in ‘obligatory’ systems. We make
943 this point by focusing on Tibeto-Burman languages, which show a high incidence – perhaps
944 even dominance, according to DeLancey (2012) – of optional ergative marking.¹¹ Apart from
945 Tibeto-Burman material, we also cite examples from Australian languages and beyond, if
946 there is good evidence for an optional marker originating in one of these non-core cases.

947

948 *Instrumental sources*

949

950 Polysemy between ergative and instrumental functions, which may point to an origin of one in
951 the other, is well-established for a large number of Tibeto-Burman languages (see LaPolla
952 1995, who lists 49 cases in his survey of sources of ergative marking in 106 Tibeto-Burman
953 languages), as well as for many Australian languages (see Dixon 2002: 135-136, and more
954 generally Palancar 2009: 567-568).

955 This source is found, for instance, in Darma, which has optional ergative marking: Darma
956 has a marker *su* that serves as both the ergative and the instrumental adposition (Willis 2011),
957 as illustrated in (19) below.

958

959 (19) Darma (Tibeto-Burman; Willis 2011: 106)

960 niŋ su pharsa su nadu pyeɭ-n-su
961 1PL ERG axe INSTR DEM.NEUT chop-1PL-PST
962 ‘We chopped it with an axe.’

963

964 Similarly, in the optional ergative systems described for Umpithamu and Kuuk Thaayorre
965 (see sections 1 and 2.1.1 above for examples) the ergative markers can also be used for
966 instrumental marking, as is the case for many Australian languages. Interestingly, examples
967 like these also show how in some cases ergative-instrumental polysemy is only one part of a
968 more complex diachronic path. For Kuuk Thaayorre, there is evidence that the ergative

¹¹ In contrast to this, a minority has accusative alignment, e.g. some of the Lolo-Burmese languages (see §2.1.2 above), while others have obligatory ergative alignment such as Dolakha Newar, Chintang, numerous Kiranti languages and many Tibetan varieties (LaPolla 1995: 216, Chelliah 2017: 925-926). The optional type of system is largely distributed from a core area in the West Himalayan area through to Central Tibetan, Na and Qiangic, the latter spoken in Tibet, Yunnan and Sichuan (DeLancey 2012: 10). Amongst these branches of Tibeto-Burman, different degrees of optionality are clearly evident and so too different motivations behind the use of these markers, as already discussed in section 3.

969 marker ultimately originates in structures with focus markers or indexical markers (as detailed
 970 in section 4.1.2 below). In this sense, ergative-instrumental polysemy may also postdate the
 971 development of an optional system, for instance reflecting a generalization of an optional A
 972 marker towards an optional marker of a broader Effector role, which encompasses both
 973 Agents and Instruments (see also Gaby 2017: 218-219).

974

975 *Ablative sources*

976

977 Ablatives are reasonably common as a source for ergatives in Tibeto-Burman languages, as
 978 the figures from LaPolla (1995) reveal (18 instances in his survey of 106 ergative Tibeto-
 979 Burman languages). The examples from Yongning Na (also known as Mosuo) in (20a) and
 980 (20b) show precisely this polysemy, in an optional ergative system (see Lidz 2011).

981

982 (20) Yongning Na (Tibeto-Burman; Lidz 2011: 54)

983 a. wɣ¹³ k^hu³³ t^hu³³ nu³³ lə³³-sæ³³ lə³³-pɔ³¹-ts^hu³³ ni³³
 984 again dog 3SG.PRO AGT ACCOMP-carry ACCOMP-bring CERT
 985 ‘Again he took the dog hunting (and) brought (it) back.’

986 b. lə³³-sɯ³³ zɛ³³ ʃ³¹-sɣ³³ku³¹ mɣ³³-wɔ³³ nu³³
 987 ACCOMP-carry PFV 1INC heavens ABL
 988 ‘(He) carried (her) off, (he) carried (her) off from our heavens’

989

990 Lidz explains that *nu*³³, which she labels as an agentive marker, has the same form as the
 991 ablative (Lidz 2011: 54). However, it is extremely rare in texts with an ablative function, for
 992 which *kwɔ*³³ is the more common marker. According to Lidz, *nu*³³ may in fact be a loan from
 993 Tibetan: apparently, cognates of this morpheme are common as agentive or ergative markers
 994 across Qiangic and Loloish languages in Yunnan, Sichuan and Northern Thailand (Lidz 2011:
 995 54). Along similar lines, Noonan (2009: 268) remarks that the cognate ablative forms in the
 996 Tibeto-Burman subgroup of Bodish (Ghale, Tibetan varieties, West Himalayish), as well as
 997 Newar, Baric, Mishmi, and Akha, all show extension to the ergative and instrumental.

998 There is also at least one instance of an optional ergative system in an Australian
 999 language where the marker involved derives from an ablative. Schultze-Berndt (2017) shows
 1000 how in Jaminjung the ‘regular’ ergative marker can alternate with a form that is also used as
 1001 an ablative. Both are optional, but Schultze-Berndt clearly shows that the second type is
 1002 restricted to animate, volitional A arguments, and is more strongly triggered by focal status

1003 for the A argument, as shown in (21) below. Obviously, this is the typical information-
 1004 structural motivation that has often been observed in this type of system, but from the
 1005 perspective of this section it is interesting that the marker involved appears to derive from an
 1006 ablative, which is common also in ‘obligatory’ ergative systems.

1007

1008 (21) Jaminjung (Mirndi; Schulte-Berndt 2017: 1109-1110)

1009 ba-manggu nami=ngunyi

1010 IMP-hit 2SG=ABL

1011 ‘Kill it yourself!’

1012

1013 A related diachronic change in non-optional systems is the development of ablatives into
 1014 markers of the Agent in passive constructions (Heine & Kuteva 2002: 29-30). Heine &
 1015 Kuteva (2002: 199-200) view this as a general process involving spatial concepts, which
 1016 includes locatives used as A markers, which are discussed in the next subsection.

1017

1018 *Locative sources*

1019

1020 A locative source for ergative marking is found scattered across a variety of languages and
 1021 language families, including a small number of Tibeto-Burman languages (LaPolla 1995:
 1022 190), Australian languages (usually also including instrument, in Palancar’s survey, 2009:
 1023 569), as well as Sumerian (isolate; Blake 2004:172), Chukchi (Chukotka-Kamchatka;
 1024 Lehmann 2002: 98) and Northwest Caucasian languages (Palancar 2009: 569) among others.

1025 This includes optional ergative systems, as in Singpho, where the optional agentive
 1026 marker is identical to an adverbial particle which codes mainly locative and temporal
 1027 meanings (Morey 2012). Example (22a) illustrates the ergative use of the marker, while (22b)
 1028 shows how a marker with the same form is used to express the locative sense of ‘on’.

1029

1030 (22) Singpho (Tibeto-Burman; Morey 2012: 3, 12)

1031 a. dai³ kəsa² ii³ dai³ jan³ phee³ biya kora ha?¹
 1032 that son AGT that girl A.AGT marry do DECL

1033 ‘... and so the son married that very girl.’

1034 b. nyee⁴ num⁴naŋ¹ waa¹² naa⁴ ləta? ii⁴ jum¹
 1035 1SG.POSS friend DEF POSS hand ADV grab

1036 ‘grab my friend (by) the hand’, lit. ‘grab (on) the hand of my friend’

1037

1038 Morey (2012) points out that language-internal evidence is insufficient to show that the
1039 agentive marker developed on the basis of the locative/temporal adverbial, but he does concur
1040 that this is one of the possible pathways in Tibeto-Burman.

1041 Coupe (2011) argues that the optional ergative marker in Mongsen Ao, *-nə* (see examples
1042 (4) and (8) above), has its source in a local or relational term for ‘rib, side’, reconstructed as
1043 **na* in Proto-Ao and **ʔ-nam* in Proto-Tibeto-Burman. He compares this development with
1044 other languages, including Mandarin Chinese, where the noun for ‘side’ is well-established as
1045 a lexical source for relational terms called ‘localizers’, and some French-based pidgins and
1046 creoles which use forms derived from ‘side’ in a similar manner to form relational terms
1047 (Heine & Kuteva 2002: 272). Interestingly, this is one of the few cases where we can
1048 potentially trace back an optional A marker to a lexical source, even though here too the
1049 development probably went through a generalized locative stage before the ergative function
1050 developed. As argued by Coupe (2011), the lexical form ‘side’ may have led to a general type
1051 of oblique marker covering direction, source and instrument, from which *-nə* would have
1052 developed into an optional agentive marker (Coupe 2011). The study does not indicate from
1053 which of these three main functions the agentive has evolved, however. The example in (23)
1054 illustrates a proverb in which all three uses are evident, viz. the agentive use on ‘dog’, the
1055 directional use on ‘vomit’, and the instrumental use on a generic pronoun.

1056

1057 (23) Mongsen Ao (Tibeto-Burman; Coupe 2011: 27)

1058 a-ji nə tuɿ nə athùʔ-tʃən nə a-nət-pən wa mətəm

1059 NRL-dog AGT GPN INST vomit-LNOM ALL NRL-two-ORD go like

1060 ‘Like a dog going back to its vomit by itself for a second time.’

1061 (= to eat one’s words; to reject something and then want it later)

1062

1063 4.1.2. Specific source domains

1064

1065 The previous section has shown that markers in optional systems can have very similar
1066 origins to their counterparts in ‘obligatory’ systems. However, the specific functions found in
1067 optional systems have also led to the exploration of some less traditional source domains,
1068 especially information structure, which as mentioned above is a typical function associated
1069 with optional ergative and nominative systems. There are two clusters of sources that can be

1070 discussed under this umbrella: focus markers (Gaby 2010) and indexical markers that serve to
1071 draw attention to unexpected Agents (McGregor 2008, 2017).

1072 Focus marking has been identified as a source for optional ergative marking in Kuuk
1073 Thaayorre (Gaby 2010), where the ergative marker in the first declension class is
1074 homophonous with a focus marker, as illustrated in (24a) and (24b).

1075

1076 (24) Kuuku Thaayorre (Pama-Nyungan; Gaby 2010: 1684, 1680)

1077 a. nhangnam yirr-ntam nganip thon=thurr

1078 mother different-ABL father one=FOC

1079 ‘They’re from different mothers [but] one father.’

1080 b. nganh kuta mong-thurr patha-rr

1081 1SG:ACC dog many-ERG bite-PST.PFV

1082 ‘Many dogs have bitten me.’

1083

1084 Specifically, Gaby (2010) argues that the focus function of the morpheme precedes its
1085 development into an ergative marker (unlike in Jingulu, where a focus marker is a recent
1086 development from an ergative marker, see section 2.1.2 above). Gaby adopts the framework
1087 of Preferred Argument Structure (Du Bois 1987) to explain how this reanalysis may have
1088 come about. Given that lexical A forms are rare in discourse (since Agents typically represent
1089 given information and quickly pronominalize), in an initial period it is conceivable that they
1090 may have been marked by the focus marker to code some kind of discourse prominence. In
1091 frequent association with lexical A arguments, the focus marker could subsequently have been
1092 reanalysed as an ergative marker, encoding transitive subjects rather than just focus, thus
1093 leading to the synchronic coexistence of the focus and ergative functions and subsequent
1094 formal differentiation in patterns of allomorphy. A similar development has been identified by
1095 McGregor (2008) for Nyulnyulan and Bunuban languages, where an appositional construction
1096 with Agent nouns and a determiner, originally used to code focus, evolved into a plain non-
1097 appositional construction with increased usage and reanalysis of the focus marker as an
1098 ergative marker.

1099 The Nyulnyulan and Bunuban cases actually illustrate a second cluster of phenomena,
1100 viz. indexicals like demonstratives, pronouns and determiners as a source domain for ergative
1101 marking, most likely because of their function in a construction that serves to highlight the
1102 unexpected status of a participant (McGregor 2017). McGregor (2006, 2008), Kulikov (2006)
1103 and König (2011) are some of the few studies that treat this development in some detail;

1104 McGregor (2017) provides a comprehensive survey.

1105 An example of an indexical source can be found in Baagandji, where one of the ergative
1106 markers derives from a demonstrative (Hercus 1982; as also discussed in McGregor 2008 and
1107 Cristofaro 2013). This is, in fact, still visible in systematic synchronic ambiguity: as shown in
1108 (25) below, the demonstrative feature of *-nhuru* is still interpretable alongside the ergative
1109 one.

1110

1111 (25) Baagandji (Pama-Nyungan; Hercus 1982: 63)

1112 gaarru nhuunggu-nhurru wadu-dji-na

1113 other woman-DEM/ERG take-PST-3SG.ACC

1114 ‘Another woman took it. / This other woman took it.’

1115

1116 A direct reanalysis from demonstrative to ergative is hard to motivate, but McGregor
1117 (2008, 2017) argues that the relevant context may have been appositional constructions,
1118 where the apposition of an indexical to a nominal serves to highlight the unexpected status of
1119 A arguments. As in Gaby’s (2010) model, this explanation crucially involves a Preferred
1120 Argument Structure constraint, according to which A arguments are most likely to be
1121 expected participants, in contrast with S or O arguments, and therefore most in need of formal
1122 marking if they are unexpected. This may explain why ‘highlighting’ appositional
1123 constructions may come to be associated with A arguments to the exclusion of other roles.
1124 Further examples of indexical sources for ergative marking can be found in König (2008,
1125 2011: 511), who has reconstructed a definite marker in Pări, Anywa and Jur-Luwo (Nilotic)
1126 which first evolved into a marked-nominative case and then ultimately into an ergative
1127 marker. Finally, Harris and Campbell (1995: 341) also cite the case of Georgian (Kartvelian),
1128 where a demonstrative and personal pronoun ‘this, he’ may be the source of its ergative
1129 marker *-ma/m*.

1130

1131 4.2. Optional O marking

1132

1133 As already mentioned in section 3.1, optional O marking does not have a specific areal
1134 distribution like optional A marking, but appears to be the dominant pattern of O marking
1135 overall according to the survey in Sinnemäki (2014). The diachrony of optional O marking
1136 has been relatively well-researched (see Seržant & Witzlack-Makarevich eds 2018 for a

1137 recent survey), with a particular focus on specific families and subgroups, like Romance
1138 languages within Indo-European (Bossong 1991, 1998, Iemmolo 2010, Antonov & Mardale
1139 2014), a range of West African languages within Niger-Congo (e.g. Lord 1993), optional
1140 accusative languages in Nilo-Saharan (König 2008: ch.2) and also in Sino-Tibetan,
1141 particularly the Sinitic languages (Chappell 2013). Tibeto-Burman stands out here for the
1142 range of optional case marking phenomena: not only does it have optional O marking but it
1143 also possesses optional A marking.

1144 As in our discussion of optional A marking in the preceding section, we will analyse the
1145 diachrony of optional O marking in relation to what is known about the development of O
1146 marking more generally. Some of the major sources identified cross-linguistically are spatial
1147 adpositions, benefactives and datives, with datives as a central node preceding O marking
1148 (Lehmann 2002, Heine & Kuteva 2002, Blake 2004, Heine 2009, König 2011). This is shown
1149 in Figure 4 below, taken from Lehmann (2002: 99).

1150

1151 Figure 4 here

1152

1153 In general, there is a relatively close match between optional and obligatory O marking in
1154 terms of secondary grammaticalization, for instance starting from datives (which is not
1155 surprising, given that optional marking is probably the dominant pattern typologically for O;
1156 see section 3.1). Instead, the origins of optional O marking stand out in two ways. On the one
1157 hand, the optional type appears to be distinct in terms of the nature of the grammaticalization
1158 paths, with discourse and other intervening factors being identifiable for the optional type. On
1159 the other hand, optional O marking is also quite distinct in the sense that lexical sources
1160 appear to be readily identifiable in some cases. These include the lexical field of ‘take’ verbs,
1161 which are common in Niger-Congo languages of West Africa and in several Asian language
1162 families, not to mention ‘give’ and ‘help’ verbs in Sinitic, as well as comitative verbs.

1163 Given these differences, this section will be organized slightly differently than the
1164 previous one, with section 4.2.1 devoted to secondary grammaticalization paths involving
1165 datives, and section 4.2.2 devoted to lexical and other sources leading to datives and thence to
1166 O markers.

1167

1168 4.2.1. Secondary grammaticalization paths involving datives

1169

1170 *Datives and information structure*

1171

1172 Spatial and directional cases including allatives, locatives and perlative, appear to be some of
1173 the main non-core cases that are widely recognized as a source for O marking, after passing
1174 through a further stage where they may mark dative functions. The same set of sources can be
1175 found in optional O systems, but interestingly there is some evidence that information
1176 structure plays a role somewhere along the path from either dative or allative to optional O
1177 marker.

1178 Two specific examples in European languages are allative and perlative prepositions as
1179 sources for O marking in Romance languages, many of which synchronically involve some
1180 degree of optionality. For example, in Spanish and Sardinian, the prepositions *a*, which are
1181 used to mark datives and, with different degrees of optionality, accusatives as well, are the
1182 reflexes of the Latin allative *ad* ‘to, towards’ (Bossong 1998, Iemmolo 2010). By way of
1183 contrast, in Romanian, the accusative preposition derives from the perlative *pe* ‘through’,
1184 descended from Latin *per* ‘through’. According to Mardale (2010), the use of this accusative
1185 marker involves both a referent-based split and optionality, as defined in section 2. It is
1186 optional for specific, human nouns, as shown in (26), while it is obligatory for proper names
1187 and pronouns, and excluded everywhere else.

1188

1189 (26) Romanian (Indo-European; Mardale 2010: 5)

1190 am căutat(-oi) (pe) studentăi

1191 PERF search=ACC ACC student

1192 ‘I have looked for the student.’

1193

1194 In some cases, there are indications that information structure played a role in the path
1195 towards O marking. For instance, Mardale (2010) argues that in addition to local semantic
1196 features such as animacy and specificity, the global factor of topicality also plays a role in the
1197 evolution from dative/perlative to an O marker in Romanian. An indication for this is the
1198 existence of a construction-based split in Romanian, in which O marking is obligatory in left-
1199 dislocation constructions, as shown in (27).

1200

1201 (27) Romanian (Indo-European; Mardale 2010: 16)

1202 *(pe) student Ion îl cunoaște.

1203 ACC student Ion ACC knows

1204 ‘It’s the student that John knows.’

1205

1206 Similarly, Iemmolo (2010) uses discourse data for a further four Romance languages to
1207 show that O marking is particularly favoured in left dislocation structures, in which the direct
1208 object, typically a pronoun, is placed in clause-initial position. He analyses the use of the
1209 allative preposition *ad* (and its descendants) as a topic marker in left dislocation structures in
1210 Late Latin, Old Sicilian and several modern Romance languages, including Sicilian, Italian,
1211 Catalan, and some non-standard French varieties, as shown in (28) for Italian.

1212

1213 (28) Northern Italian (Indo-European; Iemmolo 2010: 249)

1214 A te, non ti sopporto più!

1215 ACC you NEG 2SG tolerate:PRS.1SG longer

1216 ‘I cannot stand you any longer.’

1217

1218 Iemmolo (2010) generalizes these developments as a pathway leading from an allative
1219 marker over a topic marker, to a dative and subsequently to an O marker. A pathway
1220 involving topic marking, of course, chimes in with the synchronic functions of optional O
1221 marking in an interesting way, as argued in detail in Iemmolo (2011). Still, we think the
1222 proposed pathway may need some refinement. Rather than ‘topic marking’ representing a
1223 developmental stage in its own right, between allative and dative, we would argue that
1224 topicalized left-dislocation, and similarly ‘afterthought’ constructions, should be seen as the
1225 appropriate syntactic environment for re-interpretation of datives as optional O markers. This
1226 is, in fact, reminiscent of the situation of focus marking constructions in the development of A
1227 marking, promoting reanalysis of indexicals in specific appositional constructions into
1228 ergative markers (as discussed in section 4.1.2).¹² In terms of the typology developed in
1229 sections 2 and 3, both of these instances can be interpreted as construction-based splits that
1230 serve as a diachronic pathway towards optional marking.

1231

1232 *Early stages of grammaticalization from datives into O markers*

¹² Interestingly, McGregor (2018) argues for several Khoe languages that the source of the optional O marker is a copular verb that came to be used as a focus marker with high frequency on objects in cleft sentences, but was also possible on other arguments. Later, a generalization in use took place so that the marker mainly marked direct objects, and indirect objects (for which the conditions of use are less clear). Strikingly, the discourse conditions and semantic features of its usage resemble those described above for Romance and Tibeto-Burman, despite the clearly distinct source.

1233

1234 In many Tibeto-Burman languages, we find a situation that resembles closely what we have
1235 just described for Romance languages, but that may nonetheless reveal an earlier stage in the
1236 grammaticalization process, given the apparently more restricted scope of usage of the
1237 resulting optional O marker. Many Tibeto-Burman languages show an extension of datives to
1238 optional O markers on animate and referential nouns, and sometimes on topical ones, but in a
1239 large number of languages the dative still takes precedence over the O argument for being
1240 overtly marked when they co-occur in the one structure (see further in Lidz 2012 and other
1241 papers in Chelliah & Hyslop eds 2011-2012).

1242 Burmese is a case in point. The dative postposition *-ko/-go*, which originates in an
1243 allative (Jenny & Hnin Tun 2016: 160-163), is typically used to mark recipient or beneficiary
1244 functions. As an accusative marker, *-ko/-go* shows both optionality and a referent-based split.
1245 It is obligatory on nominals with a human referent, such as personal pronouns, names, kinship
1246 terms and terms for professions, and optional with other semantic categories of nouns, with
1247 marking determined by discourse features such as topicality and referentiality. Significantly,
1248 in ditransitive predicates, only one noun may be marked by *-ko/-go*, and in this case, it is the
1249 dative which is ‘favoured’ over the O argument, as shown in the contrast between (29b) and
1250 (29a).

1251

1252 (29) Burmese (Tibeto-Burman ; Jenny & Hnin Tun 2016: 162, 163)

1253 a. tɛaun-gəlè-go khwé-gəlè kaiʔ-te
1254 cat-DIM-OBJ dog-DIM bite-NFUT

1255 ‘The little dog bit the little cat.’

1256 b. θu.myà-go di ʔətəaun mə-pyò-né
1257 other.people-OBJ this matter NEG-speak-PROH

1258 ‘Don’t speak about this to others.’

1259

1260 From a diachronic point of view, this type of polysemy is evidently quite harmonious
1261 with the case of Indo-European languages for the dative/allative > accusative shift, also for its
1262 pattern of generalization down the person hierarchy. Rather than explaining these phenomena
1263 in terms of a synchronic pattern as ‘anti-ergative markers’ used to disambiguate the ergative
1264 from other core roles in the clause (see LaPolla 1992, following Comrie 1975), we may
1265 usefully adduce the diachronic principle of persistence (Hopper 1991: 22), whereby traces of
1266 the original or earlier meaning remain after the reanalysis process sets in. It is therefore not

1267 surprising to find that when these dative markers extend in use to accusatives in early stages
1268 of grammaticalization, the semantic feature of the human or animate category may be carried
1269 over to this new accusative use, leaving a vestige of the prototypical dative case which codes
1270 a (human or animate) beneficiary or recipient.

1271

1272 4.2.2. Lexical sources leading to datives and O markers

1273

1274 Unlike the case with A marking, the paths of grammaticalization leading to optional O
1275 marking can more readily be traced back to their lexical sources. In this section, we first
1276 discuss two source domains that are found mainly in Sinitic, and have not been described in
1277 much detail in the wider typological literature. Then we round off with a better-known pattern
1278 that is found in West Africa and large parts of Asia.

1279

1280 *Verbs of giving and helping*

1281

1282 Lexical sources that undoubtedly represent a much earlier stage in the grammaticalization
1283 process of O marking outlined in the previous section are the domains of giving and helping.
1284 Cross-linguistically, verbs of giving are well-known for furnishing benefactive or dative
1285 adpositions (Lord 1993, Newman 1996, Heine & Kuteva 2002, Heine 2009), but a secondary
1286 grammaticalization into optional O marking is a development which has taken place in a large
1287 number of Central Sinitic languages (Chappell 2013).

1288 This reanalysis takes place in the V₁ position of sentences with complex predicates
1289 whereby the first verb grammaticalizes into a benefactive preposition ‘for’ and then into an O
1290 marker. All uses can be found to co-exist synchronically. For example, in the languages of
1291 Hunan, the most common optional O marker, illustrated in (30b), derives from the main verb
1292 of giving, *pa*⁴¹, illustrated in (30a).¹³

¹³ Note that this verb *pa*⁴¹ is cognate with the O marker in Northern Sinitic, including Standard Mandarin, *pa*²¹⁴ 把, whose source meaning is ‘to hold’. It is, however, consistently used as a verb meaning ‘to give’ in this central area of China for Xiang, Gan, Southwestern Mandarin, Hakka and patois (all Sinitic) whereas in Standard Mandarin it can no longer be used as a verb at all. Presumably, the morpheme has undergone a semantic shift from ‘hold’ to ‘give’ at some stage in its evolution, but one that predates the formation of the O-marking construction from the available evidence. In this respect, Güldemann (2013) proposes the notion of ‘semantic coercion’ in both Tuu and Sinitic, as the possible mechanism underlying the shift from ‘take’ to ‘give’, specifically coercion of monotransitive ‘take’ verbs used in syntactically ditransitive contexts to mean ‘give’, whence they develop along the pathway

1293

1294 (30) Changsha Xiang (Sinitic; Wu 2005: 188, 307)

- 1295 a. ma³³ma ei, pa⁴¹ lian⁴¹ k^huai⁴¹ tɛi¹³ ŋo⁴¹ lo
 1296 mother PRT give two CLF money 1SG PRT
 1297 ‘Mum, give me two dollars please.’
 1298 b. paŋ³³ ŋo⁴¹ pa⁴¹ pei³³tsɿ la³³ lai lo³³
 1299 for 1SG OM cup bring DIR PRT
 1300 ‘(Please) bring me the cup.’

1301

1302 Verbs of helping undergo the same development in Sinitic languages. While the
 1303 grammaticalization from ‘help’ to benefactive is very common across all Sinitic languages
 1304 (Kuteva & Heine forthc), the further stage of grammaticalization into an optional O marker is
 1305 largely confined to the Wu, Hui, and Xiang branches. In (31), for instance, from the Jiangshan
 1306 variety of Wu, the O marker is derived from the verb pã⁴⁴ ‘to help’.

1307

1308 (31) Jiangshan (Sinitic; Xu & Tao 1999:138)

- 1309 pã⁴⁴ ie²⁵eiŋ⁵⁵ gu²² pau⁵⁵teie³⁵ thon⁵⁵thon⁵⁵ ma²² tɛu⁵¹
 1310 OM this.CLF_{PL} old newspaper all.RDP sell CMPL
 1311 ‘Sell all these old newspapers.’

1312

1313 From a semantic point of view, ‘help’ and ‘give’ verbs can be treated together for this
 1314 path of grammaticalization in the syntactic context of earlier serial verb constructions (S
 1315 V₁[help, give] O V₂) in which they first evolve into prepositions meaning ‘for’. A subsequent
 1316 development towards O marking can be linked to a bridging context (Evans & Wilkins 2000,
 1317 Heine 2002) in which an action performed for someone’s benefit also affects them. See
 1318 further in Chappell, Peyraube & Wu (2011), who argue that this development is particularly
 1319 evident with actions in the personal sphere where the beneficiary is also the patient (e.g. *The*
 1320 *barber trimmed his beard for him.*).

1321

1322 *Comitative verbs*

1323

1324 A lesser known source domain for optional O markers are comitative verbs from which

described above, to dative and accusative markers (See also Wu 2005: ch. 6 and Chappell 2015 for other unrelated ‘give’ verbs that have developed an O-marking function).

1325 comitative prepositions arise. This development appears to be largely restricted to Sinitic,¹⁴
 1326 where it is solidly attested for adpositions which have evolved from lexical sources meaning
 1327 ‘to be together’, ‘to connect’, ‘to follow’ or ‘to mix (together)’.

1328 Once more, this development occurs in the typical syntactic context of V₁ in serial verb
 1329 constructions of the form S V₁ O V₂ (see further in Chappell 2015). It is evident from the
 1330 lexical sources of such verbs that they can all be associated with the semantic feature of
 1331 accompaniment, the core value of the comitative. This is illustrated in (32) below, from a
 1332 variety of Southern Wu (Taihu group), where a lexical verb, tseʔ⁴⁵, meaning ‘stick together’
 1333 developed a comitative use, illustrated in (32a), and an O marking use in (32b).

1334

1335 (32) Shaoxing (Sinitic; Xu & Tao 1999:142)

1336 a. ŋo¹³ tseʔ⁴⁵ noʔ¹² ieʔ⁵te⁵³saŋ⁵³ tɕ^hi³³

1337 1SG COM 2SG together go

1338 ‘I’ll go together with you.’

1339 b. veʔ¹² ɕia³⁵ɕiŋ⁵³ tseʔ⁴⁵ tsɿʔ⁴⁵ fo⁵³u³⁵saŋ⁵³ pha⁵³ dze⁰

1340 NEG.IMP careful OM CL vase push.over-break CRS

1341 ‘If you’re not careful, you’ll knock over the vase.’

1342

1343 For this grammaticalization pathway, note however that there is no direct step from
 1344 comitative to O marker. As for verbs of giving and helping, an intermediate stage is proposed
 1345 via a general oblique marker covering benefactive, dative and ablative functions, which
 1346 subsequently develops into a benefactive or dative, and finally into an optional O marker.
 1347 This is certainly an unusual source for O marking, since cross-linguistic surveys of the
 1348 comitative in the main show a pathway from comitative over instrumental to ergative, which
 1349 is particularly widespread in Australian languages, if not from comitative to instrumental for
 1350 many European languages (Heine & Kuteva 2002: 84-90; Stolz 2001; Narrog 2009: 589-599).

1351

¹⁴ In her study of West African serial verb constructions, Lord (1993: 132) mentions the possibility of a comitative source marker for a form that can be used for O marking in Awutu (Niger-Congo), observing that comitative verbs such as ‘be with’ or ‘meet’ may develop functions as markers of instrument, comitative and patient. Iemmolo (2011: 103-104) points out that comitatives are used as optional O markers in at least two Southeast Asian creoles: Kristang (Malacca Creole Portuguese) and Bazaar Malay. Bazaar Malay has been heavily influenced by varieties of Southern Min or Hokkien which could explain its use of *kap* < ‘with’, as he correctly supposes. The source of Kristang *ku* is less clear but may be borrowed from a Sinitic language, as Iemmolo also remarks.

1352 *'Take' verbs*

1353

1354 'Take' and 'hold' verbs present a very common source for optional O marking, including
1355 more semantically-specific verbs such as 'hold', 'grasp' and, sometimes, 'get' and 'obtain'.
1356 This source is well-documented for several West African languages in Niger-Congo (see Lord
1357 1993: 65-137, Heine and Kuteva 2002: 289-290, Heine 2009), for creoles (Jansen, Koopman
1358 & Muysken 1978) and for several Asian language families including Tai-Kadai, Austroasiatic
1359 and Hmong-Mien (Clark 1989, Bisang 1992) and Sinitic (Chappell 2013).

1360 The discourse and semantic conditions of use for these optional O markers have been
1361 clearly pinpointed for Sinitic and for many Southeast Asian languages: a definite, if not
1362 referential, O is required, representing given information (see Chappell 2013, and Iemmolo &
1363 Arcodia 2014). Furthermore, an interpretation of affectedness (though not of animacy)
1364 generally pertains to the outcome of the event for O. This is illustrated in (33) below, from
1365 Mandarin, where the Patient is marked with an O marker *ba*³ [pa²¹⁴] derived from a verb
1366 meaning 'hold'. This example is taken from a conversation at the beginning of a novel
1367 describing the economic decline of a factory. The 'manager of the factory' represents a person
1368 known to the other characters in the story and thus represents a piece of given information.
1369 The fact that the manager is fired clearly fulfils the affectedness parameter. It is therefore a
1370 prime candidate for marking with this type of O marker.

1371

1372 (33) Mandarin (Sinitic; Chappell & Shi 2016: 452)

1373 ting¹shuo¹ mei²you³ shang⁴tou² ba³ chang³zhang³ che⁴ le⁰

1374 hear NEG boss OM factory.director fire LE

1375 'Have you heard about it? The boss fired the manager.'

1376

1377 Given these discourse conditions, the aptness of verbs that mean 'take', 'hold' or 'grasp' is
1378 evident as a source for O marking: their inherent notion of manipulation of an object enables
1379 the change of state implication, that is, the feature of affectedness (see Table 3 above).

1380 In West African languages as well as Southeast Asian languages, the actual path from
1381 'take' to O marking may involve a stage marking instruments. In Twi, for instance, where O
1382 marking is associated with definiteness in some contexts (see Lord 1993: 111-113), the O
1383 marker derives from a verb meaning 'take, hold, possess, own' (Lord 1993: 70-71), as shown
1384 in (34a). In contemporary use it can introduce O as well as instrument, manner and
1385 comitative, as shown in (34b) for instrument and (34c) for O (note that the marker has

1386 forward semantic scope, even though it is represented as a suffix in the source).

1387

1388 (34) Twi (Niger Congo; Lord 1993: 70, 67, 66)

1389 a. ɔkɔm de me

1390 hunger take me

1391 ‘I am hungry.’

1392 b. o-de enkrante tya duabasa

1393 he-DE sword cut branch

1394 ‘He cut the branch with a sword.’

1395 c. o-de afoa ce boha-m

1396 he-DE sword put scabbard-inside

1397 ‘He put the sword into the scabbard.’

1398

1399 A similar observation can be made for Southeast Asia, for which Clark (1989) observes
1400 that ‘take’ serialization is endemic. This includes the relevant verbs of Thai (Tai-Kadai) *aw*,
1401 Hmong (Hmong-Mien) *muab* and Khmer *yɔ:k*, which may introduce both instruments and
1402 direct objects in clauses with complex predicates (of the structure S-*take*-O-V). The Khmer
1403 examples in (35) illustrate the use of *yɔ:k* for O marking (35a) and for instruments (35b). The
1404 structure in (35a) further also illustrates the availability of lexical and grammaticalized
1405 interpretations in the same structure; this accords with ‘take’ verbs as being at a very “young
1406 stage” of grammaticalization but just for these particular languages, as argued in Bisang
1407 (1992).

1408

1409 (35) Khmer (Austro-Asiatic; Bisang 1992: 73, 434)

1410 a. kɔət yɔ:k khao-ʔa:v tɿu ha:l thɿay

1411 3SG take clothes V_{DIR} put sun

1412 ‘He put the clothes in the sun/ He took the clothes and put them out in the sun.’

1413 b. kɔət yɔ:k kambɿt mɔ:k kat sac-crù:k

1414 3SG take knife V_{DIR} cut pork

1415 ‘He cut the pork with a knife.’

1416

1417 **5. Conclusion**

1418

1419 Our survey of the diachrony of optional case marking suggests a number of generalizations
1420 about the origins and development of the markers involved. On the one hand, it shows that the
1421 origins of optional case markers overlap to quite some degree with their counterparts in
1422 ‘obligatory’ systems, particularly in the development of instrumental, locative and ablative to
1423 ergative, or dative to accusative. On the other hand, there are also a few features that are
1424 specific to the origins of optional marking. First, the analysis shows that, in certain language
1425 families and linguistic areas, some of the common source domains for the dative stage
1426 preceding optional O marking can be traced back to very early lexical stages of ‘give’, ‘help’
1427 and comitative verbs, which may contribute to the task of identifying recurrent mechanisms of
1428 reanalysis. Second, the survey also highlights the potential importance of information
1429 structure in the development of optional marking, either as a specific morphosyntactic source
1430 domain (e.g. with focus or indexical markers for ergative case), or as a constructional context
1431 inducing a particular path of grammaticalization (e.g. focus or topic constructions as a crucial
1432 stage towards case functions). Along the same lines, properties of source domains or
1433 constructions often continue to play a role in the current functions of case markers, as
1434 illustrated, for instance, by the continuing importance of information structure as the
1435 motivation behind optional A and O marking, or the affectedness constraint in optional O
1436 markers deriving from ‘take’ and ‘hold’ verbs.

1437 These observations actually bring us back to our typological starting point. The
1438 typological survey in the first part of this paper has shown that it is important for analytical
1439 reasons to regard optional, alternating, split and obligatory systems as distinct phenomena:
1440 they are logically distinct, and they have quite different typological properties. On the other
1441 hand, the discussion so far has also suggested quite strongly that there are interrelations
1442 between the systems: different types can co-exist within one and the same language
1443 (sometimes in probabilistic ways), and/or within one and the same genetic unit. Given these
1444 links, the question is how exactly the different types relate to each other.

1445 The most obvious question concerns the relation between optional and obligatory systems
1446 of case marking, and whether one can be regarded as a diachronic source for the other. The
1447 overlapping origins of optional and obligatory markers, and the co-occurrence of optional and
1448 obligatory systems in the same genetic unit (e.g. for A marking in Tibeto-Burman and in
1449 Pama-Nyungan, and for O marking in Romance), are strong indications that the two are
1450 diachronically related in some way. In the literature on optional marking, we can find
1451 indications about directionality, going either way. For instance, work on ergative marking in
1452 contexts of rapid change, e.g. in young people’s varieties or obsolescent systems, has shown

1453 that an optional system can develop out of an obligatory one (e.g. Meakins & O'Shannessy
1454 2010, see McGregor 2017: 462-463 for a survey). Conversely, for Tibeto-Burman, Delancey
1455 (2012) has pointed out that optional use of ergative markers can already be discerned in Old
1456 Tibetan texts, and has hypothesized, with LaPolla (1995), that an original optional system
1457 may have stabilized into an obligatory one in some Tibeto-Burman languages like Newar and
1458 Mizo. Coupe (2011) makes a similar point comparing the optional system of Mongsen Ao
1459 with the obligatory one in Chang. For Romance, Iemmolo (2010) uses a comparison between
1460 accusative marking in Old and Modern Sicilian to argue that the optional system in Old
1461 Sicilian has become generalized in a process of diffusion down the animacy hierarchy,
1462 leading to a loss of its original link with information structure in Modern Sicilian. In another
1463 view on directionality, Bossong (1991:154) contends that languages all have some kind of
1464 predisposition to develop optional O marking and that this typically involves some kind of
1465 formal restructuring and lexical replacement of older systems – which may also have been
1466 optional. Studies like these are definitely suggestive about the issue of directionality, but in
1467 general much more work is needed, including historical-comparative work and careful study
1468 of textual material in older stages, where that is available, in order to provide definitive
1469 answers to this question.

1470 A second question concerns the relation between optional (and alternating) systems and
1471 split systems. Again, frequent co-occurrence of split and optional systems within one
1472 language suggests that there must be some kind of link. Our diachronic analysis has suggested
1473 at least one way in which the two types could be related. Both for the development of A and
1474 O marking, the analysis highlighted specific constructional contexts that induced
1475 grammaticalization towards case marking, e.g. focus constructions involving indexicals in
1476 apposition on the way towards A marking in Australian languages, and topicalizing
1477 constructions involving dislocation on the way towards O marking in Romance. In both cases,
1478 the relevant stage could be regarded as a construction-based split, since it is the use of a
1479 particular construction that induces the use of a particular marker. Crucially, however, the
1480 constructional features inducing the split actually foreshadow the later functional
1481 specialization of the optional marker in terms of information structure, such as from topical to
1482 given and definite, and therefore can be regarded as forming a diachronic pathway towards an
1483 optional marker and beyond from its source domain. Still, as with the previous question, these
1484 are only suggestions, and more careful diachronic and typological work will be needed to
1485 answer these questions in a satisfying way.

1486 More generally, we believe that open questions like these can most fruitfully be examined
1487 by work at the interface between typology and diachrony, which tries to link synchronic
1488 properties and constraints to properties of source domains and constructions at the origins of
1489 case systems, as also suggested in Cristofaro (2013), Barðdal & Gildea (2015) and Cristofaro
1490 & Zuñiga (eds 2018). We hope that this survey can help to stimulate this kind of work.
1491
1492

1493 **6. Abbreviations used in the glosses**

1494

1495 A.AGT anti-agentive, ABL ablative, ABS absolute, ACC accusative, ACCOMP accomplished,
1496 ADESS adessive, ADV adverbial, AGT agentive, ALL allative, AN animate, ANAPH anaphoric,
1497 CERT certainty, CLF classifier, CMPL verb complement, COM comitative, CRS currently relevant
1498 state, DAT dative, DECL declarative, DEF definite, DEM demonstrative, DIM diminutive, DIR
1499 direct / directional, DU dual, EN epenthetic nasal, ERG ergative, EXC exclusive, F feminine,
1500 FERG focal ergative, FOC focus, FUT future, GEN genitive, GPN generic pronoun, IMP
1501 imperative, INSTR instrumental, INAN inanimate, INC inclusive, INDEF indefinite, INV inverse,
1502 LNOM locative nominalizer, LOC locative, MIN minimal, NEG negation, NEUT neutral, NOM
1503 nominative, NPST non-past, NRL non-relational noun prefix, NS non-specific tense aspect
1504 marker, OBJ object, OBL oblique, OM object marker, ORD ordinal number, PART partitive, PERF
1505 perfect, PFV perfective, PL plural, POSS possessive, PRES present, PROH prohibitive, PROG
1506 progressive, PRT particle, PST past, RDP reduplication, REFL reflexive, SBJ subject, SG singular,
1507 SUB subordinator, TR transitive, VDIR directional verb

1508

1509

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- 1825

1826 **8. Tables**

1827

Type of case marking	Structure		Marking
	Referent	Construction	
Optional	-	-	Case vs none
Alternating			Case ¹ vs Case ²
Referent-based split	different	same	Either
Construction-based split	same	different	

1828 Table 1: Basic typology of alternations and optionalities

1829

Mirror image principle		
Differential marking	Optional A marking	Optional O marking
	Alternating A marking	Alternating O marking

1830 Table 2: Classic model of optional and alternating marking

1831

Optional A marking		Optional O marking	
Distribution	Not rare	Distribution	Not rare
Function	- Focus and/or unexpectedness - Degree of agentivity	Function	- Definiteness, givenness - Topicality - Degree of affectedness
Alternating A marking		Alternating O marking	
Distribution	Very rare	Distribution	Relatively rare
Function	Focus, potency, volitionality	Function	- Definiteness - Degree of affectedness

1832 Table 3: Functions and distributions of optional and alternating marking

1833

1834

1835 **9. Figure captions**

1836

1837 Figure 1: (one version of) the referential hierarchy (Silverstein 1976)

1838

1839 Figure 2: Referential hierarchy and markedness reversal

1840

1841 Figure 3: Grammaticalization chains for A (and/or S) markers

1842

1843 Figure 4: Grammaticalization chains for O markers

1844

1845