Title: Optional and alternating case marking: Typology and diachrony

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

Running title: Optional and alternating case marking

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2

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14 optional systems, apart from certain lexical sources, as well as factors related to information

15 structure, both in the form of source domains and as constructional contexts playing a role in

16 the development of the markers.

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1

1. Introduction

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

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

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

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

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

       'The whitefella took us in the car.'

    b. waypala   maarra-n=antyangku

       whitefella   take-PST=1PLEXC.ACC

       'The whitefella took us.'

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

    a. hän jo-i   maido-n

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

       'S/he drank (all) the milk'

    b. hän jo-i   maito-a

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

'S/he drank (some of the) milk'

59

60   Both of these examples can be contrasted with classic 'obligatory' case systems, where

61 switches in case by definition serve to mark changes in grammatical role (e.g. Blake 2004).

62 Still, the presence or absence of a case marker in structures like (1) is not meaningless, nor is

63 the alternation with other case markers in structures like (2). In (1), for instance, the presence

64 of an ergative marker places focus on the referent, while in (2) the alternation between

65 accusative and partitive marks different degrees of affectedness of the referent in the event.[1]

66 These types of meaning are broadly in line with the meanings highlighted in the literature on

67 these topics, respectively from the domains of information structure and participant

68 involvement (see further in section 3).

69   Systems of optional and alternating case marking are interesting for a range of reasons.

70 First, they are theoretically challenging. Case is at the core of clause structure, coding the

71 essential grammatical roles: optional and alternating marking of case challenges rigid notions

72 of paradigmaticity and ideal grammars, and highlights the need to look towards intersections

73 with discourse, interpersonal organization and diachrony in accounting for case marking.

74 Second, optional and alternating case marking are interesting from a typological perspective.

75 There are many classic generalizations about case in linguistic typology, most obviously

76 relating to different versions of the referential hierarchy (e.g. Silverstein 1976, Moravcsik

77 1978, DeLancey 1981, Tsunoda 1981). The validity of such hierarchies has recently been

78 questioned (Bickel et al. 2014); phenomena of optional and alternating marking add further

79 questions, in the sense that they challenge the markedness relations assumed to underly

80 referential hierarchies. Finally, phenomena of optional and alternating case marking are also

81 conceptually and terminologically challenging. Case marking has rarely been analysed as

82 completely uniform, and 'optional' and 'alternating' marking are part of a crowded field of

83 labels for case systems that rely on alternations and optionalities of various kinds, like split

84 systems, hierarchical systems and many other types. In this sense, phenomena like the ones

85 illustrated in (1) and (2) also highlight the need for more precise characterizations of the

86 nature of different types of optionalities and alternations in case marking, and how these relate

87 to each other.

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[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).

88   In this paper, we situate optional and alternating case marking within the larger field of

89 research on case marking systems, we try to synthesize the most important contributions in

90 the recent typological and diachronic literature, and we highlight some of the questions and

91 problems that remain. As suggested by our use of the term 'case', we focus on dependent-

92 marking patterns. This is where much of the recent work on optional and alternating marking

93 has been concentrated, and it is likely that relevant generalizations are specific to patterns of

94 dependent marking, and cannot simply be transferred to head marking (as shown, for instance,

95 by Iemmolo's (2011) comparison of case and indexation for optional and alternating object

96 marking). The structure of the paper is as follows. Section 2 defines the basic phenomena,

97 focusing first on optional and alternating case marking, and then on the related phenomena of

98 referent- and construction-based splits in case marking. Section 3 discusses the typological

99 generalizations proposed in the literature, focusing specifically on how the different types of

100 case marking relate to each other. We show that the classic unified model based on

101 markedness reversals between Agents and Patients is problematic, and we propose a more

102 differentiated approach. Section 4 discusses what we know about the diachronic development

103 of systems of optional and alternating case marking, particularly what is specific about the

104 origins and development of these types of systems in comparison with classic 'obligatory'

105 case systems. We show that diachronic sources of optional markers are largely shared with

106 those of obligatory ones, apart from certain lexical fields, but that factors relating to

107 information structure may have played an important role in the diachrony of optional systems,

108 either as sources or as constructions intervening at some stage in their development. Section 5

109 rounds off with a conclusion.

110

111 **2. Phenomena and terminology**

112

113 This section introduces the basic phenomena, starting with optional and alternating case

114 marking (sections 2.1 and 2.2), where case alternations are determined by the speaker's

115 choice to construe the participant in a particular way, rather than by any aspect of the structure

116 involved (McGregor 2010). This is followed by a discussion of referent- and construction-

117 based splits in case marking (section 2.3), where changes in case marking are triggered by

118 aspects of the structure, either differences in the referent involved or differences in the larger

119 construction in which the case marker is used. When discussing different types of marking,

120 we use the terms S, A and O as they are traditionally used in typology, i.e. S for the sole

121 argument of an intransitive clause, and A and O (or P, in some traditions) for the more Agent-

122   like and the more Patient-like arguments of a transitive clause (see Haspelmath 2011). We

123   realize that these terms are in fact problematic hybrids (see Mithun & Chafe 1999, McGregor

124   2002 for some of the problems), but in this context we use them as convenient shorthand

125   terms to link with the typological literature we survey here.

126

127   2.1. Optional case marking

128

129   Following Kittilä (2005) and McGregor (2010, 2013), optional case marking can be defined

130   as a situation where a case marker can be present or absent in a particular environment,

131   without affecting the grammatical role of the relevant nominal. In many studies of case

132   marking, this is actually subsumed under a broader category of differential marking of case

133   (e.g. Bossong 1985, Aissen 2003), but in section 3 we will show that there are, in fact, good

134   reasons to distinguish optional marking from situations where two distinct, overt case markers

135   alternate, following McGregor (2010) and Iemmolo (2013). Optional marking is found mainly

136   for A and for O arguments, as illustrated in section 2.1.1 below, but there is also evidence for

137   optional marking of Goal arguments (see further in Kittilä 2008, and in section 4.2). Given

138   that optional marking of case typically conveys additional meanings, some authors in this

139   domain reject the label 'optional', or dispute that we are, in fact, dealing with case markers (of

140   specific types). These questions are discussed in more detail in section 2.1.2.

141

142   *2.1.1. Optional marking of A and O*

143

144   Optional case marking for A arguments is illustrated in the structures in (3) and (4) below,

145   from Kuuk Thaayorre and Mongsen Ao, respectively. Both languages have basic ergative

146   alignment for nominals,[2] and in neither instance does the absence of a case marker on the A

147   argument affect the grammaticality of the structure. Thus, the nominals without the ergative

148   or agentive markers in (3b) and (4b) function as A arguments just as much as their equivalents

149   with the relevant markers in (3a) and (4a).

150

---

[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.

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

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

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

      'A boy and a dog are looking at the frog.'

   b. parr_r nhul   thamr puut   nhaanham

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

      'The boy looks into the boot.'

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

   a. a-hən   nə   a-tʃak   tʃàʔ-ə̀ɹ-ùʔ

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

      'The chickens are eating paddy.' [implying that they are stealing it]

   b. a-hən   a-tʃak   tʃàʔ-ə̀ɹ-ùʔ

      NRL-chicken NRL-paddy consume-PRES-DECL

      'The chickens are eating paddy.'

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

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

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

185 a. ketâb-râ   xând-am

186   book-ACC   read:PST-1SG

187   'I read the book.'

188 b. ketâb   xând-am

189   book   read:PST-1SG

190   'I read a book/books.'

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

192 a. xam ʔa ti: ǁao-se   sa:-ha nggurube ʔa   ǁao-a-ta

193   lion ACC 1SGOBL shoot-ADV try-PST warthog ACC shoot-J-PST

194   'I tried to shoot the lion, but shot the warthog instead.'

195 b. k'a: khoe   katse pa:-ha

196   male   person cat   bite-PST

197   'The man bit the cat.'

198

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

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

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

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

203 (6b), without a contrastive relation), or the degree of affectedness of the O argument

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

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

206

207 *2.1.2. 'Optional' marking, or even 'case' marking?*

208

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

210 'optional' marking, nor even as case marking. The objections to 'optional' are mainly

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

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

213 substantial debate.

214   The term 'optional' has become the conventional way to refer to systems of optional A

215 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,

information-structural motivations for what at first sight looked like 'optional' use of ergative markers (see also Saxena 1991, Tournadre 1991 for other early observations to this effect). In many of these earlier publications on optional A marking, 'optional' was often used with scare quotes, probably to distinguish it from the traditional assumption that case markers could be genuinely optional in a structural sense, i.e. be omitted whenever it was clear who did what to whom (as discussed, for instance, in Dixon 1979: 72-73 or Comrie 1981: 123, who recognized optionality early on[4] but explained it in terms of a basic discriminatory function of case). Without scare quotes, the term is not entirely felicitous, since it may seem to suggest that the presence or absence of a case marker is a matter of free variation, which is obviously not the situation. However, given that the term has become conventionalized in a large part of the literature, is not clear that any alternative term would be any better, especially in a domain that is already quite crowded terminologically. One alternative, i.e. subsuming optional marking under the umbrella term of differential marking (see footnote 3), is problematic for analytic reasons, as will be shown in section 3. Another alternative, i.e. the formal term 'asymmetrical marking' (contrasting with 'symmetrical marking', following de Hoop & Malchukov 2008), would obscure the fact that we are dealing with one single marker that can be present or absent, which may have semiotic import (as argued in McGregor 2013; see further in section 3.2).

More significantly, some authors have also objected to characterizing these optional systems as case systems, or as case systems with a specific type of alignment (e.g. DeLancey 2012, Coupe 2007, Dixon 2002: 132-133). The crucial point here is that in some systems of optional A marking, the optional case marker can also be used for S arguments in some intransitive clauses (see McGregor 2007: 218-219 for a survey).[5] Among the three systems discussed so far, for instance, this is the case in Kuuk Thaayorre and Mongsen Ao, as shown

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).

240 in (7) and (8) below, but not in Umpithamu, where optional ergative marking is restricted to A

241 arguments.

242

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

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

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

246   'The child and the dog fall into the water [together].'

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

248   nì   nə   akhət

249   1SG AGT cough.PST

250   'I coughed.' [i.e. on purpose, to get your attention]

251

252   A distribution beyond A arguments may suggest that the relevant marker is not an

253 ergative marker, and that we are dealing with something other than a system of optional A

254 marking. This is, in fact, the argument developed in Coupe (2007), who prefers to call the

255 Mongsen Ao marker agentive, in line with its basic semantics of wilful involvement in the

256 activity, rather than ergative, which would be in line with its supposed distribution (see also

257 Chelliah & Hyslop 2011 for similar arguments).[6] A parallel argument for Kuuk Thaayorre

258 would be to suggest that the relevant marker is in fact an information-structure marker

259 associated with subjects, rather than an ergative marker whose optional use has information-

260 structural meanings (see Gaby 2008: 127-128). However, there are arguments against this

261 conclusion, for both languages. Thus, for instance, Gaby (2008: 128) shows that an

262 information-structural analysis is not viable because the relevant marker is strongly associated

263 with A arguments in contexts of elicitation, to the extent that its use with S arguments is

264 typically rejected out of context. Similarly, Coupe's (2007: 164) analysis of Mongsen Ao

265 suggests that the agentive marker is in fact rare with intransitive verbs, a skewed distribution

266 that goes against an analysis as a general agentive marker. Similar arguments have been made

267 for other languages, for instance in McGregor (2007), who shows that the occasional use of an

268 ergative marker in intransitive clauses in Warrwa (Nyulnyulan) does not imply that it is an

269 agentive rather than an ergative marker, or in Riesberg (2018), who argues that intransitive

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[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).

uses of the ergative in Yali (Trans-New Guinea) are too rare to affect its characterization as ergative.

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

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

    a. cə.má   na^n.mɛ (ká) ma.la pa

       1SG.POSS name   SBJ   Mala PRT

       'My name is Mala.'

    b. ʔəme   (ká) móun.hniʔ ʔətɕɔ tɕɔ pè,   tɕəmá (ká) laiʔ   yàun mɛ.

       mother SBJ batter   fried fry give 1F   SBJ follow sell FUT

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

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

<u>2.2. Alternating marking</u>

304

305 In this survey, we contrast optional marking with alternating marking, following a conceptual

306 distinction made in McGregor (2010) and Iemmolo (2013): instead of the presence or absence

307 of one single case marker, alternating marking involves an alternation between two distinct

308 case markers that does not affect grammatical role.[7] In the literature, what we call optional

309 and alternating marking have more commonly been subsumed under a broader category of

310 'differential' marking (e.g. Bossong 1998, Aissen 2003; see also Malchukov & de Swart

311 2009), which also includes referent-based splits, to be discussed below in section 2.3.1. We

312 believe that these three categories are best kept apart for analytical reasons, which is also why

313 we introduce the new label 'alternating', to distinguish this category both from 'optional' and

314 'differential'. On the one hand, an alternation between two case markers in the same context

315 is not just formally different from variable use of one single marker, but as will be shown in

316 section 3, it also has a somewhat different distribution and functional motivation. On the other

317 hand, alternating marking as defined here is also distinct from referent- and construction-

318 based split marking, where the alternation is triggered by differences in the structure involved,

319 i.e. different referents or different constructions (see further in section 2.3).

320   Alternating marking is found, once again, both for A argument and for O arguments. For

321 A arguments this is quite rare, since, as mentioned just above, alternative markers for A are

322 usually triggered by differences in referent or construction (see further in section 2.3).

323 However, there are some examples in the literature, like the alternation found in Warrwa,

324 where two ergative markers can be used in the same grammatical context, without affecting

325 grammatical roles. Thus, for instance, the basic ergative marker in (10a) and the focal ergative

326 marker in (10b) can be used interchangeably, without any effect on the interpretation of the

327 relevant nominals as the A argument. The only difference between the two lies in the domain

328 of information structure: the focal ergative marks that the A argument is "both unexpected

329 and highly agentive" (McGregor 2006: 393), as in (10b), while the neutral ergative is neutral

330 in this regard (though it is itself optional, and its absence marks defocusing of the A

331 argument; McGregor 2006: 409-412).

332

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

---

[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).

334   a. yila-na   kujuk   ø-na-ng-ka-ny-ø   warli

335   dog-ERG   swallow   3minNOM-TR-EN-carry-PF-3minACC   meat

336   'The dog swallowed the meat.'

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

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

339   ''A crocodile has got me,' (she said).'

340

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

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

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

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

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

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

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

348

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

350   a. oron-mo   java-kal

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

352   'Catch that reindeer.'

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

354   1SG-DAT   meat-INDEF.ACC   bread-INDEF.ACC   give-IMP.PRS.2SG

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

356

357 <u>2.3. Related phenomena</u>

358

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

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

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

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

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

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

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

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

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

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

369   differences in the larger construction involved.

370

371   *2.3.1. Referent-based split marking*

372

373   The first type to be discussed here is a pattern in which case alternations occur in one and the

374   same construction, but are determined by differences in the referent, in the sense that one type

375   of referent requires obligatory presence of case marking, whereas another requires obligatory

376   absence, or presence of another case marker. This is, of course, a classic in the typology of

377   case, where referent-based splits in case marking have been linked to hierarchies of referent

378   types based on principles of animacy and/or empathy (e.g. Silverstein 1976, Moravcsik 1978,

379   Tsunoda 1981, DeLancey 1981). Figure 1 represents one of several versions of this hierarchy

380   (see further in section 3.2).

381

382   Figure 1 here

383

384   These types of hierarchies can produce alternations for A and O marking that at first sight

385   look like patterns of optional or alternating case marking discussed above. An example of

386   referent-based split A marking is found in Nêlêmwa, illustrated in (12) below. Nêlêmwa has

387   two different types of ergative markers, one for inanimate A arguments, as in (12a), and one

388   for animate A arguments, as in (12b). Split O marking is illustrated by the Malayalam

389   structure in (13), where accusative marking is obligatory for human O arguments, as in (13a),

390   while it is absent for inanimate O arguments, as in (13b).

391

392   (12) Nêlêmwa (Austronesian; Bril 1997: 379)

393   a. doi-na   ru   cacia

394   sting.TR-me   ERG.INAN   acacia

395   'The acacia stung me.'

396   b. i   tûûlî pwaxi eli   a   kaavo

397   she dry   child   that.ANAPH ERG.AN   Kaavo

398   'Kaavo dried the child.'

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

400   a. avan kutti-ye   aticcu

401   he   child-ACC   beat.PST

402   'He beat the child.'

403   b. ɲaan teeŋŋa   vaaŋŋi

404   I   coconut   buy.PST

405   'I bought some coconuts.'

406

407   The structure in (12) superficially looks like alternating marking for A arguments, while

408 that in (13) looks like optional marking for O arguments. However, these cases are both

409 logically and functionally distinct from the optional and differential systems described above.

410 They are logically distinct because it would not be possible, in either case, to have these case

411 alternations for one and the same referent, which is the defining feature of optional and

412 alternating systems. They are also functionally distinct, because their functional motivation

413 relates to differences in animacy (and, in the classic explanation, the associated likelihood of

414 serving as A and O; see further in § 3.1), rather than to information structure or participant

415 affectedness, which motivate optional and alternating systems.

416   Of course, this is not to say that referent-based splits are completely unrelated to optional

417 and alternating systems. There are a number of links between the two types. First, optional

418 systems in particular are often also partially split. This is the case, for instance, for

419 Umpithamu, where ergative marking is obligatory for inanimate nominals and optional for all

420 other nominals (with the motivations discussed in example (1) above), as illustrated in (14)

421 below. Thus, one and the same language can have both a referent-based split and an optional

422 system.

423

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

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

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

427   'The wind knocked down the tree.'

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

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

430   'The man knocked down the tree.'

431

432   Secondly, referent-based splits can also be probabilistic rather than obligatory, thus

433 shading into optional systems. For instance, Verbeke & Decuypere (2015) argue that for

434 Nepali (Indo-European), the use of ergative marking is partly split on the basis of animacy

435 principles, i.e. referent-based, but in a probabilistic rather than an absolute way: in

imperfective tenses, ergative marking is more typical for inanimates, and less typical for animates. Similarly, Schultze-Berndt (2017) shows that for Jaminjung (Mirndi), the use of the ergative marker is determined not just by referent-related factors such as animacy and person, but also by information structure (as in the optional ergative systems discussed in section 2.1.1 above) and tense/aspect and verb class (as in the construction-based splits to be discussed in section 2.3.2). Again, the different factors interact in a probabilistic way, as shown in Schultze-Berndt & Meakins (2017).

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

2.3.2. Construction-based splits

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

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

469 constructional context differs, and accordingly also the syntactic role of the case-marked

470 elements (the adessive-marked nominal is not an A, see Verstraete 2011).

471

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

473   a. ngayu   galga   nhanu   dumbi

474   1SG.NOM spear   2SG.GEN break.PST

475   'I broke your spear (on purpose).'

476   b. ngadhun.gal galga   nhanu   dumbi-idhi

477   1SG.ADESS   spear   2SG.GEN   break.PST-REFL

478   'I broke your spear (accidentally).'

479

480   A comparable example is the East Futunan structure in (16) below. Again, at first sight

481 this looks like alternating A marking, with an alternation between ergative and possessive

482 marking to background the A role in polite contexts (Moyse-Faurie 2000, 2011). As with the

483 Guugu Yimidhirr structure, however, there are other changes at the construction level that

484 indicate that the basic transitivity of the structure has changed: the genitive-marked argument

485 in (16b) actually forms a possessive phrase with the equivalent of the O argument, and this

486 whole phrase is marked as absolutive. In other words, these structures again do not meet the

487 basic criterion for an alternating system, because case alternations correlate with broader

488 morphosyntactic differences between constructions: these differences affect syntactic roles,

489 and accordingly also determine differences in case marking.

490

491 (16) East Futunan (Austronesian; Moyse-Faurie 2011: 593)

492   a. e   feave'aki e   Atelea   ana   fakapaku i   lamatu'a

493   NS   peddle   ERG Atelea   his   doughnut LOC   road

494   'Atelea peddles his doughnuts along the road.'

495   b. e   feave'aki a   fakapaku   a   Atelea   i   lamatu'a

496   NS   peddle   ABS doughnut   POSS   Atelea LOC   road

497   'Atelea peddles his doughnuts along the road.'

498

499   The structures in (15) and (16) are relatively minor patterns typologically (see further in

500 Verstraete 2011 on structures like (15) and Duranti & Ochs 1990, Moyse-Faurie 2000, 2003

501 on structures like (16)), but there are a number of classic alternations in the typology of case

502 that are equally triggered at the level of the construction, even though these do not always as

503   clearly affect syntactic roles. One of these concerns case alternations triggered by differences

504   in tense, aspect or mood values (see further in DeLancey 1981, Malchukov & De Hoop 2011).

505   An example is provided in the Kurdish structures in (17) below, where both the marking of

506   the A argument and the O argument alternate depending on whether the clause is in the past

507   (17a) or present (17b). Similarly, alternations can be triggered by aspectual distinctions (e.g.

508   Nepali, where ergative marking is obligatory in perfective tenses and optional in imperfective

509   ones, see discussion in section 2.1 above) or mood-related ones (e.g. Finnish, where

510   accusative marking is absent in imperative clauses, see Malchukov & de Hoop 2011; see

511   further in section 3.1.1 below).

512

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

514   a. min   tu   dît-î

515   I-OBL   you saw-2SG

516   'I saw you.'

517   b. ez   te   di-bîn-im

518   I   you-OBL PROG-see-1SG

519   'I see you.'

520

521   Another well-known case in this domain are instances of so-called 'hierarchical' or

522   'inverse' alignment, where alternating markers cannot be assigned to any one argument, but

523   are triggered by the specific configuration of the two main arguments involved (Klaiman

524   1992, Zuñiga 2006, Jacques & Antonov 2014, Haude & Witzlack-Makarevich eds 2016). A

525   classic example comes from Cree, illustrated in (18) below, where a configuration of first

526   person acting on third triggers a direct marker, as in (18a), while a configuration of third

527   person acting on first triggers an inverse marker, as in (18b).

528

529   (18) Cree (Algic; Klaiman 1992: 228)

530   a. ni-waapam-aaw-ak

531   1-see-DIR-3PL

532   'I see them.'

533   b. ni-waapam-ikw-ak

534   1-see-INV-3PL

535   'They see me.'

536

537   The examples discussed in this section are quite diverse in their own right, but from the

538   perspective of optional and alternating case marking as described above, they all illustrate the

539   same structural phenomenon, viz. case alternations that are triggered by construction-level

540   features. As will be shown in section 3, some of these case alternations are quite easily

541   confused with patterns of alternating case marking, so it is important to mention them in this

542   survey. In some cases, they can also co-occur with patterns of optional or alternating marking,

543   as in the case of aspect-based splits, which are found in combination with optional ergative

544   patterns in Tibeto-Burman (e.g. DeLancey 1990, 2012 on Lhasa Tibetan) and in neighbouring

545   Indo-Aryan languages such as Hindi-Urdu (Butt 2006) and Nepali (e.g. Verbeke & Decuypere

546   2015).

547

548   2.4. Summary

549

550   Table 1 below summarizes the basic distinctions made so far, which as already mentioned

551   largely follow the conceptual distinctions drawn in McGregor (2010) and Iemmolo (2013).

552   On the one hand, there are case alternations that are independent of any lexical or

553   morphosyntactic conditions, and can in principle apply to one and the same element in one

554   and the same construction. Within this category, optional systems have a single marker that

555   can be present or absent, and alternating systems show an alternation between two overt case

556   markers. On the other hand, there are also case alternations and optionalities that are triggered

557   by differences in the referent or differences in the larger construction. These are known as

558   referent-based splits and construction-based splits, respectively.

559

560   Table 1 here

561   In the following section, we discuss functional generalizations proposed in the literature for

562   each of these types individually, as well as the relations between them. This will also make

563   clear why we fix these particular boundaries between types (again following McGregor 2010,

564   Iemmolo 2013), even if some of these choices are different to a certain extent from some of

565   the literature on the topic, as has been highlighted at various points.

566

567   **3. Functional and typological generalizations**

568

569   This section surveys what is known about the typology of optionalities and alternations in

570   case systems. In section 3.1, we focus on optional and alternating case marking as defined in

571 the previous section, and we show that traditional unified explanations of the two cannot be

572 maintained in light of recent research. Instead, we first show that optional marking should be

573 distinguished from alternating marking, and second that phenomena relating to the marking of

574 A are not automatically mirrored for O, as is predicted by the classic analysis of markedness

575 relations underlying referential hierarchies. In section 3.2, we focus on how optional and

576 alternating marking relate to referent- and construction-based splits. This leads to a number of

577 diachronic questions, which are further elaborated in section 4, on the origins of optional case

578 markers.

579

580 3.1. Optional and alternating marking

581

582 The classic typology of case offers a relatively unified framework to deal with what we have

583 called optional and alternating case marking. This framework is based on two principles. On

584 the one hand, what we call optional and alternating marking of case are usually subsumed

585 under the umbrella term of differential marking (together with referent-based splits), and not

586 accorded any special status beyond their basic formal difference. This is clearest for the

587 marking of O arguments, where a single category of 'differential' O marking is the dominant

588 option, but even for A marking, where optional marking is a more frequent terminological

589 choice, it is rare to find a principled distinction between optional and alternating marking (as

590 mentioned in Malchukov & de Swart 2009; see further in section 2.2). On the other hand,

591 referential hierarchies like the one proposed in Silverstein (1976) and subsequent work predict

592 that A marking and O marking are each other's "mirror image" (as it is labelled in de Hoop &

593 de Swart 2008: 6) following a principle of markedness reversal, as shown in Figure 2: what is

594 typical for A arguments is atypical for O arguments, and the other way around (e.g. Comrie

595 1981, Aissen 2003, Naess 2006).

596

597 Figure 2 here

598

599 Thus, principles proposed for differential marking of O, like partial affectedness, are predicted

600 to be mirrored in their opposite for differential marking of A, and vice versa (see Fauconnier

601 & Verstraete 2014 for an overview and critique of this approach to case marking). These two

602 principles are visualized in Table 2 below: if one of the four basic cells can be explained, this

603 explanation can be extended to the whole domain, first because optional and alternating

604 marking are regarded as mere formal variants within a basic category of differential marking,

19

605 and secondly because whatever principle is recognized for A (or O) will be mirrored in an
606 opposite principle for O (or A).

607

608 Table 2 here

609

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

615

616 *3.1.1. Typological survey*

617

618 To begin with optional A marking, the literature offers a clear set of generalizations, about
619 distribution and about function (see McGregor 2010, and the papers in McGregor &
620 Verstraete eds 2010, Chelliah & Hyslop eds 2011-2012). As to distribution, optional A
621 marking is not rare: McGregor (2010) lists over 100 languages with optional ergative marking
622 (plus rarer instances of optional nominative marking), and estimates that about 10 % of
623 morphologically ergative languages show optional ergativity. These are not distributed evenly
624 across the world, however: there are two clear hotbeds of optional ergativity, one in the
625 Australia-New Guinea region (see also Foley 2000: 374-375), and one in Tibeto-Burman
626 languages (see also LaPolla 1995). As to function, the old idea that omissibility of A marking
627 is mainly found in contexts with little chance of confusing A and O (e.g. Dixon 1979: 72-73,
628 LaPolla 1995: 215-216) is now largely abandoned.[8] Instead, two clear clusters of motivations
629 have emerged (see McGregor 2010, Chelliah & Hyslop 2011).
630   First, there is a set of motivations relating to information structure: the presence of A
631 marking is motivated by informational prominence for the A argument. This is a notoriously
632 slippery term, of course, but we can distinguish two major types of prominence here (see
633 further in Verstraete 2010: 1647-1648). On the one hand, there are 'local' types of

---

[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).

prominence, where the presence of A marking is associated with focus on the A argument, often set off against a presupposition in the immediately preceding discourse, as in contrastive focus contexts and question-answer sequences. On the other hand, there are also more 'global' types of prominence, where the presence of A marking is sensitive to expectations about A arguments in larger chunks of discourse (see McGregor 1992, 2006), such that the expected A argument for an episode is left unmarked after its introduction, but any deviations from the expected A within the episode are marked. Second, there is also a set of motivations relating to degrees of agentivity, such that marking for the A argument is associated with control, potency or volitionality in its involvement in the activity. In some languages, this goes hand in hand with degrees of patientivity, in the sense that a strongly affected O argument can also trigger marking for the A argument (e.g. McGregor 1992: 284-285). None of these motivations are mutually exclusive. The optional A system in a language can involve all of the above (e.g. in Kuuk Thaayorre, Gaby 2008), some (e.g. in Mongsen Ao, where agentivity and expectedness seem to play a role, Coupe 2007), or only one (e.g. in Umpithamu, where only focus plays a role for optional ergative marking, Verstraete 2010). And where more than one type of motivation is available, they can reinforce each other in individual cases (see Gaby 2008).[9] Obviously, there is also some discussion in the literature about whether these two sets of factors (information structure and degrees of agentivity) could be reduced to one single feature, as will be discussed in more detail in section 3.1.2 below.

Optional O marking has a longer tradition in the typological literature than optional A marking, with Comrie (1979) and Bossong (1985) as prominent early studies (though, as mentioned earlier, using the umbrella term 'differential marking'). In more recent work, Iemmolo (2011) offers a sample-based typological study of the phenomenon, and in Iemmolo (2013) this is explicitly distinguished from, and contrasted with, differential O marking as defined in this paper (using the terms 'asymmetric' and 'symmetric', respectively, following de Hoop & Malchukov 2008). All of the studies in this tradition also include patterns of referent-based split marking, especially based on animacy, which in this study is regarded as a distinct type. If we factor in these differences, we can derive the following generalizations from the literature. First, optional O marking is not rare, and probably more frequent than optional A marking. Bossong (1991: 154) claims that this type is relatively stable in the development of case marking systems and "represents a preferred target of diachronic

---

[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.

665 evolution". Similarly, in a large-scale survey, Sinnemäki (2014) suggests that systems of O

666 marking with some form of optionality are more frequent than systems without it,[10] a

667 generalization that holds even if we leave out referent-based splits from his figures. Second,

668 unlike with optional A marking there is no clear areal pattern (Sinnemäki 2014). While some

669 genetic units have attracted particular attention in the literature (e.g. Romance or Sinitic),

670 there are no clear areal hotbeds as with optional A marking.

671   As to functional motivations, finally, there are three clear clusters that emerge from the

672 literature (see Iemmolo 2011 for an overview). One relates to animacy, in the sense that

673 explicit marking of O is associated with animate and/or human O arguments. In terms of our

674 typology, this is usually a matter of referent-based splits (see (13) above) rather than optional

675 marking. As mentioned above, however, in some cases the distribution over animacy types

676 appears to be probabilistic rather than absolute and can therefore shade into optional marking

677 (see further in section 3.2). The second cluster of motivations relates to information structure

678 in a broad sense, with case marking being associated with O arguments that are definite, given

679 or topical. Of these factors, topicality has engendered most debate, with at least two senses in

680 which aspects of topichood are said to correlate with O marking: either as sentence-level

681 topichood, traditionally defined in terms of 'aboutness', motivating optional O marking

682 (Dalrymple & Nikolaeva 2011), or as topic shifts or topic promotions motivating optional O

683 marking (Iemmolo 2011: 216-217). Iemmolo (2011) explicitly argues against sentence-level

684 topichood as a motivating factor, but it is interesting to note that the contrast between the two

685 approaches involves the same distinction between 'local' and 'global' information structure as

686 found with prominence for A marking. A final cluster of motivations found in the literature

687 relates to affectedness, with case marking being associated with (degree of) affectedness for O

688 arguments. The relevance of this factor for what we call optional O marking is actually

689 dismissed in Iemmolo (2011: 116, 220ff), who argues that most cases where it is proposed can

690 be handled more efficiently in terms of information structure (see also Luraghi & Kittilä 2014

691 on diachronic links between affectedness and information structure). It does appear to be a

692 robust independent factor, however, in Sinitic (Chappell 2013), as well as in several West

693 African languages (e.g. Lord 1993); this is discussed in more detail in section 4.2.2 below,

694 which deals with O marking deriving from 'take' verbs. As with optional A marking, the

---

[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.

different types of motivations can co-exist in a single system, although at least definiteness appears to be rare as a motivation on its own (Iemmolo 2011: 133-134).

Alternating O marking as defined here, i.e. involving an alternation between two different case markers in the same context, is relatively rarely distinguished from optional O marking, and even more rarely studied in its own right. The two phenomena are distinguished on theoretical grounds in de Hoop & Malchukov (2008), and they are studied contrastively in a sample-based analysis in Iemmolo (2013), in both cases using different terminology ('asymmetric' and 'symmetric' marking for what we call optional and alternating marking, respectively). Iemmolo's results show that alternating O marking is relatively rare, definitely much rarer than optional O marking, and that its distribution is quite specific, limited to the Circum-Baltic area, Kartvelian languages and Polynesian languages, as well as some older Indo-European languages (Iemmolo 2013: 380-381). In functional terms, his study shows a broad range of functional motivations, which can be divided into two sets. One set involves clause-level triggers for alternations in O marking, like specific values for polarity or aspect. From the perspective of our typology, these are construction-based splits rather than genuinely alternating systems, since the case alternation is triggered by construction-level features. The second set involve genuine alternating O marking, with its own semantics, either a value of participant affectedness (complete versus partial affectedness, as in the Finnish example in (2)) or one of definiteness (as in the Evenki structure in (10)).

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

3.1.2. A more differentiated model

Table 3 here

728 Table 3 summarizes the generalizations that can be derived from the typological literature

729 about optional and alternating marking. We can now use these results to revisit the unified

730 model discussed in the introduction to this section, which was based on the combination of

731 two principles: (i) a largely undifferentiated category of differential marking, subsuming both

732 optional and alternating marking, and (ii) the mirror image principle predicting a naturally

733 inverse relation for differential A and O marking.

734   The first principle is not supported for O marking: optional and alternating marking are

735 quite different, and should be distinguished. This is, in fact, the point made in Iemmolo (2013)

736 on typological grounds, as well as in DeHoop & Malchukov (2008) on theoretical grounds.

737 Alternating marking is not only rarer than optional marking, but also has somewhat different

738 functional motivations: while definiteness and affectedness can play a role in both (though

739 this is disputed for affectedness, see Iemmolo 2011), topicality does not play a role in

740 alternating marking. The principle could in theory be said to be supported for A marking,

741 since roughly similar functional motivations seem to be involved, but in general alternating A

742 marking has a very limited distribution, with so few instances to be almost inexistent in our

743 typology. Overall, therefore, we can say that the first principle is not really supported by the

744 data. This is also the reason why, following the distinctions made in McGregor (2010) and

745 Iemmolo (2013), we decided to consistently distinguish between optional marking, where one

746 marker can be present or absent, and alternating marking, where two different markers are

747 involved.

748   The second principle, i.e. the mirror image principle, does not seem to be supported for

749 either optional or alternating marking. The motivations involved for A and O in either case

750 are quite different. While there are some general functional links (for instance, both have an

751 'information structure' type of motivation), these are not specific enough to support any

752 mirror image principle. Topicality for O could hardly be said to be the mirror image of focus

753 for A, for instance. This is, in fact, the point made by de Hoop & Malchukov (2008) and

754 Fauconnier & Verstraete (2014), who develop an argument against the mirror image approach

755 to A and O using evidence from optional and alternating case marking (though both are called

756 differential in these studies).

757   Going beyond these two principles, there is also a proposal in the literature that ascribes a

758 more schematic meaning to optional marking as distinct from other types of marking,

759 regardless of whether it affects A or O. McGregor (2006, 2010, 2013) argues that optional

760 marking is special among case systems because it involves a contrast between the presence

761 and absence of a sign, which on semiotic grounds could be said to have a general type of

762 meaning that is distinct from contrasts between two different signs. Specifically, McGregor

763 argues that the type of meaning involved in optionality is interpersonal, relating to general

764 cognitive principles of joint attention, i.e. prominence ("whether or not [the referent] is

765 accorded particular attention within the frame") and backgrounding ("whether or not [the

766 referent] is presumed to be in the frame of joint attention", McGregor 2013: 1157). McGregor

767 (2010, 2013) demonstrates how this approach can be used to typologize quite subtle

768 differences in the meanings of optional case marking systems.

769

770 3.2. Related phenomena

771

772 As mentioned earlier, optional and alternating case marking can co-occur with referent-based

773 splits, and they can be superficially similar to construction-based splits. In this section, we

774 examine how exactly the categories relate to each other in functional terms. Before we can

775 answer this question, however, it is necessary to briefly revisit the basics of referent- and

776 construction-based splits marking, as the classic typology of this domain has been subject to

777 serious challenges in recent work.

778 　　Referent-based splits are probably the best-studied of the two types, very well-studied for

779 individual languages, and with a classic generalization in the form of the referential hierarchy

780 (Silverstein 1976, DeLancey 1981, Tsunoda 1981; see also Figures 1 and 2 above). As already

781 mentioned, this hierarchy is usually motivated in terms of markedness, such that what is

782 semantically unusual gets formally marked. For instance, in the most typical example,

783 nominals with inanimate referents are marked in A roles, and receive ergative marking, while

784 1st person pronouns are marked in O roles, and receive accusative marking. The same type of

785 hierarchy has also been used as a generalization for so-called hierarchical alignment (one of

786 our types of constructionally determined case marking), where participant configurations

787 triggering different types of marking have been analysed in terms of going with or against the

788 direction of the hierarchy, e.g. first person acting on third versus third on first as in the Cree

789 example in (18) above. While no one would dispute the analyses of referent-based splits in

790 individual languages, the question is whether the hierarchy proposed to underly the splits

791 really holds as a generalization. Bickel et al. (2014) subject various versions of the hierarchy

792 to a large-scale typological test, showing that they are not tenable as a universal, even a

793 statistical one, and that instead they are areal features, with strong evidence in Australia-New

794 Guinea and Eurasia, but relatively little evidence elsewhere. Taking a different perspective,

795 Cristofaro (2013) shows that hierarchies which look like a valid generalization synchronically

796   may in fact be composite diachronically, with different parts deriving from quite different

797   historical sources, and often involving principles that are quite different from the functional

798   principle supposed to underly the hierarchy.

799   The usefulness of hierarchies has also been questioned as a generalization for so-called

800   hierarchical alignment. Witzlack-Makarevich et al (2016) argue that these systems are more

801   usefully analysed in terms of a basic feature of co-argument sensitivity, where marking for

802   one participant depends on the nature of other participants in the same clause. This re-analysis

803   also brings it more closely in line with other types of alignment, not just referent-based splits

804   (Witzlack-Makarevich et al. 2016: 557-558), but also patterns of optional and alternating

805   marking as defined here (see, for instance, semantic motivations for optional ergative marking

806   as discussed in section 3.1.1, which can originate both in agentivity features of A and

807   patientivity features of O). Other types of constructionally differentiated case marking,

808   specifically TAM-based types, have received relatively less attention in recent work. The

809   classic generalization is that values of perfective or past trigger ergative patterns, while

810   imperfective or present trigger accusative patterns (Dixon 1994), often explained in terms of a

811   feature of O-centredness for past and perfective construals of an event, versus A-centredness

812   for present and imperfective construals (DeLancey 1981). There have been a number of

813   refinements in the typology, especially Malchukov (2014), who proposes a more extensive

814   scale of tense-aspect-mood values, and Coon (2013), who argues that presumed mood-based

815   splits are actually better analysed as other types of split, but not the radical critique observed

816   above for referential hierarchies.

817   Given this re-calibration of the field, how do referent- and construction-based splits relate

818   to optional and alternating marking as discussed in this paper? To begin with referent-based

819   splits, this pattern often co-occurs with optional marking in one and the same language, as

820   exemplified earlier for Umpithamu, where ergative case is obligatory for inanimate nominals,

821   and optional for all other nominals. This specific distribution is confirmed by the broader

822   typological surveys of McGregor (2010: 1616-1617) for A marking, and Iemmolo (2011: 80)

823   for O marking. While co-occurrence does not mean the two types are not logically distinct, it

824   does strongly suggest there may be a link between them – as also suggested by the occurrence

825   of apparently probabilistic realizations of animacy-based splits as in Nepali, and partly also in

826   Jaminjung. Links could be sought in functional-typological generalizations, for instance,

827   adapting McGregor's (2013) argument about generalized meanings of optionality to referent-

828   based splits, or using preferred argument structure to link animacy principles with discourse

829   structure (Du Bois 1987, but see also Haig & Schnell 2016), or using OT-style mechanisms

830   with generalized constraints to incorporate both animacy-based and prominence-based

831   phenomena (e.g. de Hoop & Malchukov 2008). Given that the explanatory value of animacy-

832   based hierarchies can be questioned, however, it may also be useful to look elsewhere,

833   specifically at diachrony (see also Cristofaro 2013, Cristofaro & Zuñiga eds 2018). There are

834   a number of suggestions in the literature that obligatory systems of case marking (whether

835   split or not) could have grammaticized out of optional systems. This argument has been made

836   most strongly for O marking, for instance by Iemmolo (2011), whose general argument is that

837   O markers in optional systems often originate in topic-related markers, and that animacy-

838   based splits may be grammaticized from such topic-based systems, given that animate and

839   definite NPs are most likely to be topical (see also Dalrymple & Nikolaeva 2011). Similar

840   arguments have been made for A marking, for instance by Gaby (2010), who shows how

841   ergative marking in Kuuk Thaayorre may derive from focal types of marking, and McGregor

842   (2008, 2017), who argues that focalizing constructions with indexical markers may be at the

843   origin of some Australian ergative markers. These links will be further elaborated in section 4,

844   on the diachrony of optional and alternating marking.

845   Construction-based splits do not necessarily co-occur with optional and differential

846   marking, but in some cases they can be hard to distinguish from them. The basic criterion we

847   used so far is whether optionalities and alternations are triggered by construction-level

848   features or not, as demonstrated for the Guugu Yimidhirr structures in (15) above, where an

849   apparent pattern of alternating marking is actually triggered by differences in formal

850   transitivity. In cases like these, it is easy to show that we are not dealing with alternating

851   marking: alternating marking concerns case alternations that do not affect grammatical roles,

852   whereas the change in transitivity coded by the reflexive marker in Guugu Yimidhirr does

853   imply that basic grammatical roles are different. The question is, however, where one should

854   draw the boundary. Not all construction-level features affecting case marking have an effect

855   on grammatical roles, and in some cases such features can even be in line with the

856   motivations typically associated with optional or alternating marking. A case in point is

857   Iemmolo (2011: 216), whose study shows that what looks like optional O marking often goes

858   hand in hand with specific constructional features marking topicality, like differences in

859   prosody or word order (see, for instance, the discussion of optional O marking in section 4.2).

860   In a strict application of the typology proposed here, these are construction-based splits, with

861   constructional marking of topicality (e.g. in terms of word order) triggering the use of O

862   markers. However, from the perspective of diachronic hypotheses about the origins of

863   optional O marking (as discussed in the previous paragraph), an association between

topicality marking and the use of O marking is not very surprising. In that sense, such structures could in fact be regarded as standing in between construction-based splits and optional marking, revealing yet another pathway of grammaticization towards optional marking. The status of TAM-based patterns of constructionally differentiated marking, finally, remains unclear at the time being. On the one hand, the relevant differences do not appear to affect grammatical roles, which distinguishes it from the Guugu Yimidhirr structures in (15). On the other hand, however, it is also not immediately clear how these patterns would link up with any of the features motivating optional and alternating marking, except in a general way in 'perspectival' theories that link tense-aspect values with A- and O-centredness (there are also specific links between aspect and features like affectedness that figure in optional O marking, see Iemmolo 2013, Luraghi & Kittilä 2014).

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

4. Diachronic origins

In this section, we discuss what is known about the diachronic development of optional and alternating case marking. The focus will be on optional systems, as these are more common and more uniform typologically than alternating ones (as discussed in section 3.1). The main question we address is whether there is anything specific about these kinds of systems that makes their origins or their development different from classic 'obligatory' types of case. We tackle this question from two perspectives. On the one hand, we show that the origins of optional markers are not necessarily different from other types of case systems. If we look at families where optional ergativity is widespread, for instance, like Tibeto-Burman, the origins of ergative markers include some of the classic sources for case markers found elsewhere, like various types of non-core cases. On the other hand, we also show that there may be sources that are more specific to optional systems. In particular, the distinctive functions associated with optional A or O marking have led some authors to posit origins in syntactic constructions linked to these functions, for instance, in focus markers associated with information structure. This has added a number of specific source domains to the literature, which make sense in terms of the synchronic function of optional markers, and may in fact be specific to optional

898 systems (though some types have also been discussed for case systems in general, see

899 Lehmann 2002: 100-107). Along with the diachronic specificity of optional systems, a

900 secondary question we address is whether there is any diachronic relation between optional

901 and 'obligatory' systems of case, and if so, in what direction. This is a question that comes up

902 regularly in the literature, but has not really received a definitive answer, except in cases

903 where recent change can be tracked (like contact varieties, young people's varieties or

904 contexts of obsolescence, e.g. McGregor 2017: 462-463). We discuss these questions in two

905 sections, one devoted to A marking (section 4.1) and one devoted to O marking (section 4.2).

906   Before moving on to the origins of markers in optional systems, we first provide a brief

907 survey of the main sources of case marking in general, as they have been discussed in the

908 literature. In the classic studies on case (e.g. Lehmann 2002: 97-107), there appears to be a

909 consensus that case markers generally arise from adpositions, which in turn have their source

910 in nouns and verbs and to a lesser extent in adverbs and particles. Typically it is the non-core

911 cases, above all local cases, which provide the source for the core cases at the heart of our

912 study. Thus, nouns give rise to adpositions and case affixes, producing markers of non-core

913 roles such as instrumentals, locatives, ablatives and allatives, while verbs in series typically

914 give rise to adpositions, similarly coding non-core roles (Blake 2004: 161-167). The degree of

915 grammaticalization involved may be high, which means that in the majority of languages with

916 case markers, it is usually no longer possible to trace the original source, testifying to their

917 "long ancestry" (Blake 2004: 161, 172). This is also apparent in the highly fused nature of

918 portmanteau morphemes which incorporate case, number, gender and other grammatical

919 features (see also Lehmann 2002: 132 on coalescence as a parameter of grammaticalization).

920 In other words, core case markers generally represent the end process of different kinds of

921 secondary grammaticalization, that is, further stages in the grammaticalization chain for

922 elements that have already lost their lexical status (as coined by Givón 1991: 305, based on

923 Kurylowicz 1965: 22). Consequently, attested instances are rare of any single, direct step

924 from a lexical source or local case to the core cases of ergative or accusative.

925

926 4.1. Optional A marking

927

928 *4.1.1. Classic source domains for A*

929

930 Lehmann (2002) proposes a set of grammaticalization chains to explain some cross-

931 linguistically recurrent patterns of polysemy that point to common pathways for the genesis of

932   A and/or S markers. These are illustrated in Figure 3 below (partly reproduced and adapted

933   from Lehmann 2002: 99).

934

935   Figure 3 here

936

937   According to this schema, the classic sources for ergative markers include non-core cases like

938   instrumental, ablative, genitive, and locative (see also Blake 2004, Cristofaro 2013, McGregor

939   2008, 2017, Narrog 2014). In this section, we show that most of these pathways are also

940   found for case markers in optional A systems, which suggests that the origins of ergative

941   markers in such systems need not be different from those in 'obligatory' systems. We make

942   this point by focusing on Tibeto-Burman languages, which show a high incidence – perhaps

943   even dominance, according to DeLancey (2012) – of optional ergative marking.[11] Apart from

944   Tibeto-Burman material, we also cite examples from Australian languages and beyond, if

945   there is good evidence for an optional marker originating in one of these non-core cases.

946

947   *Instrumental sources*

948

949   Polysemy between ergative and instrumental functions, which may point to an origin of one in

950   the other, is well-established for a large number of Tibeto-Burman languages (see LaPolla

951   1995, who lists 49 cases in his survey of sources of ergative marking in 106 Tibeto-Burman

952   languages), as well as for many Australian languages (see Dixon 2002: 135-136, and more

953   generally Palancar 2009: 567-568).

954   This source is found, for instance, in Darma, which has optional ergative marking: Darma

955   has a marker *su* that serves as both the ergative and the instrumental adposition (Willis 2011),

956   as illustrated in (19) below.

957

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

---

[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.

959   niŋ   su   pharsa su   nadu   pyɛl-n-su

960   1PL   ERG   axe   INSTR   DEM.NEUT   chop-1PL-PST

961   'We chopped it with an axe.'

962

963   Similarly, in the optional ergative systems described for Umpithamu and Kuuk Thaayorre

964 (see sections 1 and 2.1.1 above for examples) the ergative markers can also be used for

965 instrumental marking, as is the case for many Australian languages. Interestingly, examples

966 like these also show how in some cases ergative-instrumental polysemy is only one part of a

967 more complex diachronic path. For Kuuk Thaayorre, there is evidence that the ergative

968 marker ultimately originates in structures with focus markers or indexical markers (as detailed

969 in section 4.1.2 below). In this sense, ergative-instrumental polysemy may also postdate the

970 development of an optional system, for instance reflecting a generalization of an optional A

971 marker towards an optional marker of a broader Effector role, which encompasses both

972 Agents and Instruments (see also Gaby 2017: 218-219).

973

974 *Ablative sources*

975

976 Ablatives are reasonably common as a source for ergatives in Tibeto-Burman languages, as

977 the figures from LaPolla (1995) reveal (18 instances in his survey of 106 ergative Tibeto-

978 Burman languages). The examples from Yongning Na (also known as Mosuo) in (20a) and

979 (20b) show precisely this polysemy, in an optional ergative system (see Lidz 2011).

980

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

982   a. wɤ^{13} kʰu^{33} tʰɯ^{33} nɯ^{33} lə^{33}-ʂæ^{33} lə^{33}-pɔ^{31}-tsʰɯ^{33} ni^{33}

983   again   dog   3SG.PRO   AGT   ACCOMP-carry   ACCOMP-bring   CERT

984   'Again he took the dog hunting (and) brought (it) back.'

985   b. lə^{33}-ʂu^{33} zɛ^{33} ɔ̃^{31}-sɤ^{33}ku^{31} mɤ^{33}-wɔ^{33} nɯ^{33}

986   ACCOMP-carry   PFV   1INC   heavens   ABL

987   '(He) carried (her) off, (he) carried (her) off from our heavens'

988

989 Lidz explains that *nɯ^{33}*, which she labels as an agentive marker, has the same form as the

990 ablative (Lidz 2011: 54). However, it is extremely rare in texts with an ablative function, for

991 which *kwɔ^{33}* is the more common marker. According to Lidz, *nɯ^{33}* may in fact be a loan from

992 Tibetan: apparently, cognates of this morpheme are common as agentive or ergative markers

across Qiangic and Loloish languages in Yunnan, Sichuan and Northern Thailand (Lidz 2011: 54). Along similar lines, Noonan (2009: 268) remarks that the cognate ablative forms in the Tibeto-Burman subgroup of Bodish (Ghale, Tibetan varieties, West Himalayish), as well as Newar, Baric, Mishmi, and Akha, all show extension to the ergative and instrumental.

There is also at least one instance of an optional ergative system in an Australian language where the marker involved derives from an ablative. Schultze-Berndt (2017) shows how in Jaminjung the 'regular' ergative marker can alternate with a form that is also used as an ablative. Both are optional, but Schultze-Berndt clearly shows that the second type is restricted to animate, volitional A arguments, and is more strongly triggered by focal status for the A argument, as shown in (21) below. Obviously, this is the typical information-structural motivation that has often been observed in this type of system, but from the perspective of this section it is interesting that the marker involved appears to derive from an ablative, which is common also in 'obligatory' ergative systems.

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

> ba-manggu   nami=ngunyi
>
> IMP-hit   2SG=ABL
>
> 'Kill it yourself!'

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

Locative sources

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

This includes optional ergative systems, as in Singpho, where the optional agentive marker is identical to an adverbial particle which codes mainly locative and temporal

meanings (Morey 2012). Example (22a) illustrates the ergative use of the marker, while (22b) shows how a marker with the same form is used to express the locative sense of 'on'.

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

a. dai³   kəsaa² ii³   dai³   jan³   phee³ biya   kora   haʔ¹
   that   son   AGT   that   girl   A.AGT marry do   DECL
   '... and so the son married that very girl.'

b. nyee⁴   num⁴naŋ¹   waa¹² naa⁴   lətaʔ   ii⁴   jum¹
   1SG.POSS   friend   DEF   POSS   hand   ADV   grab
   'grab my friend (by) the hand', lit. 'grab (on) the hand of my friend'

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

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

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

a-ji   nə   tuɹ   nə   athùʔ-tʃən   nə   a-nət-pən   wa   mə̀tə̀m
NRL-dog   AGT   GPN   INST vomit-LNOM   ALL   NRL-two-ORD   go   like
'Like a dog going back to its vomit by itself for a second time.'

1060   (= to eat one's words; to reject something and then want it later)

1061

1062   *4.1.2. Specific source domains*

1063

1064   The previous section has shown that markers in optional systems can have very similar

1065   origins to their counterparts in 'obligatory' systems. However, the specific functions found in

1066   optional systems have also led to the exploration of some less traditional source domains,

1067   especially information structure, which as mentioned above is a typical function associated

1068   with optional ergative and nominative systems. There are two clusters of sources that can be

1069   discussed under this umbrella: focus markers (Gaby 2010) and indexical markers that serve to

1070   draw attention to unexpected Agents (McGregor 2008, 2017).

1071   Focus marking has been identified as a source for optional ergative marking in Kuuk

1072   Thaayorre (Gaby 2010), where the ergative marker in the first declension class is

1073   homophonous with a focus marker, as illustrated in (24a) and (24b).

1074

1075   (24) Kuuku Thaayorre (Pama-Nyungan; Gaby 2010: 1684, 1680)

1076   a. nhangnam yirr-ntam   nganip   thon=thurr

1077   mother   different-ABL father   one=FOC

1078   'They're from different mothers [but] one father.'

1079   b. nganh   kuta mong-thurr   patha-rr

1080   1SG:ACC dog   many-ERG   bite-PST.PFV

1081   'Many dogs have bitten me.'

1082

1083   Specifically, Gaby (2010) argues that the focus function of the morpheme precedes its

1084   development into an ergative marker (unlike in Jingulu, where a focus marker is a recent

1085   development from an ergative marker, see section 2.1.2 above). Gaby adopts the framework

1086   of Preferred Argument Structure (Du Bois 1987) to explain how this reanalysis may have

1087   come about. Given that lexical A forms are rare in discourse (since Agents typically represent

1088   given information and quickly pronominalize), in an initial period it is conceivable that they

1089   may have been marked by the focus marker to code some kind of discourse prominence. In

1090   frequent association with lexical A arguments, the focus marker could subsequently have been

1091   reanalysed as an ergative marker, encoding transitive subjects rather than just focus, thus

1092   leading to the synchronic coexistence of the focus and ergative functions and subsequent

1093   formal differentiation in patterns of allomorphy. A similar development has been identified by

1094   McGregor (2008) for Nyulnyulan and Bunuban languages, where an appositional construction

1095   with Agent nouns and a determiner, originally used to code focus, evolved into a plain non-

1096   appositional construction with increased usage and reanalysis of the focus marker as an

1097   ergative marker.

1098   The Nyulnyulan and Bunuban cases actually illustrate a second cluster of phenomena,

1099   viz. indexicals like demonstratives, pronouns and determiners as a source domain for ergative

1100   marking, most likely because of their function in a construction that serves to highlight the

1101   unexpected status of a participant (McGregor 2017). McGregor (2006, 2008), Kulikov (2006)

1102   and König (2011) are some of the few studies that treat this development in some detail;

1103   McGregor (2017) provides a comprehensive survey.

1104   An example of an indexical source can be found in Baagandji, where one of the ergative

1105   markers derives from a demonstrative (Hercus 1982; as also discussed in McGregor 2008 and

1106   Cristofaro 2013). This is, in fact, still visible in systematic synchronic ambiguity: as shown in

1107   (25) below, the demonstrative feature of *-nhuru* is still interpretable alongside the ergative

1108   one.

1109

1110   (25) Baagandji (Pama-Nyungan; Hercus 1982: 63)

1111   gaarru   nhuunggu-nhurru   wadu-dji-na

1112   other   woman-DEM/ERG   take-PST-3SG.ACC

1113   'Another woman took it. / This other woman took it.'

1114

1115   A direct reanalysis from demonstrative to ergative is hard to motivate, but McGregor

1116   (2008, 2017) argues that the relevant context may have been appositional constructions,

1117   where the apposition of an indexical to a nominal serves to highlight the unexpected status of

1118   A arguments. As in Gaby's (2010) model, this explanation crucially involves a Preferred

1119   Argument Structure constraint, according to which A arguments are most likely to be

1120   expected participants, in contrast with S or O arguments, and therefore most in need of formal

1121   marking if they are unexpected. This may explain why 'highlighting' appositional

1122   constructions may come to be associated with A arguments to the exclusion of other roles.

1123   Further examples of indexical sources for ergative marking can be found in König (2008,

1124   2011: 511), who has reconstructed a definite marker in Päri, Anywa and Jur-Luwo (Nilotic)

1125   which first evolved into a marked-nominative case and then ultimately into an ergative

1126   marker. Finally, Harris and Campbell (1995: 341) also cite the case of Georgian (Kartvelian),

1127   where a demonstrative and personal pronoun 'this, he' may be the source of its ergative

1128   marker *-ma/m*.

1129

1130   <u>4.2. Optional O marking</u>

1131

1132   As already mentioned in section 3.1, optional O marking does not have a specific areal

1133   distribution like optional A marking, but appears to be the dominant pattern of O marking

1134   overall according to the survey in Sinnemäki (2014). The diachrony of optional O marking

1135   has been relatively well-researched (see Seržant & Witzlack-Makarevich eds 2018 for a

1136   recent survey), with a particular focus on specific families and subgroups, like Romance

1137   languages within Indo-European (Bossong 1991, 1998, Iemmolo 2010, Antonov & Mardale

1138   2014), a range of West African languages within Niger-Congo (e.g. Lord 1993), optional

1139   accusative languages in Nilo-Saharan (König 2008: ch.2) and also in Sino-Tibetan,

1140   particularly the Sinitic languages (Chappell 2013). Tibeto-Burman stands out here for the

1141   range of optional case marking phenomena: not only does it have optional O marking but it

1142   also possesses optional A marking, as discussed in the previous sections.

1143   As in our discussion of optional A marking in the preceding section, we will analyse the

1144   diachrony of optional O marking in relation to what is known about the development of O

1145   marking more generally. Some of the major sources identified cross-linguistically are spatial

1146   adpositions, benefactives and datives, with datives as a central node preceding O marking

1147   (Lehmann 2002, Heine & Kuteva 2002, Blake 2004, Heine 2009, König 2011). This is shown

1148   in Figure 4 below, taken from Lehmann (2002: 99).

1149

1150   Figure 4 here

1151

1152   There is a relatively close match between optional and obligatory O marking in terms of

1153   secondary grammaticalization, for instance starting from datives (which is not surprising,

1154   given that optional marking is probably the dominant pattern typologically for O; see section

1155   3.1). Instead, the origins of optional O marking stand out in two ways. On the one hand, the

1156   optional type appears to be distinct in terms of the nature of the grammaticalization paths,

1157   with discourse and other intervening factors being identifiable for the optional type. On the

1158   other hand, optional O marking is also quite distinct in the sense that lexical sources appear to

1159   be readily identifiable in some cases. These include the lexical field of 'take' verbs, which are

common in Niger-Congo languages of West Africa and in several Asian language families, not to mention 'give' and 'help' verbs in Sinitic, as well as comitative verbs.

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

4.2.1.   Secondary grammaticalization paths involving datives

Datives and information structure

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

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

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

am	căutat(-oi)	(pe)	studentăi
PERF	search=ACC	ACC	student

'I have looked for the student.'

In some cases, there are indications that information structure played a role in the path

towards O marking. For instance, Mardale (2010) argues that in addition to local semantic features such as animacy and specificity, the global factor of topicality also plays a role in the evolution from dative/perlative to an O marker in Romanian. An indication for this is the existence of a construction-based split in Romanian, in which O marking is obligatory in left-dislocation constructions, as shown in (27).

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

*(pe)	student	Ion	îl	cunoaşte.
ACC	student	Ion	ACC	knows

'It's the student that John knows.'

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

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

A	te,	non	ti	sopporto	più!
ACC	you	NEG	2SG	tolerate:PRS.1SG	longer

'I cannot stand you any longer.'

Iemmolo (2010) generalizes these developments as a pathway leading from an allative marker over a topic marker, to a dative and subsequently to an O marker. A pathway involving topic marking, of course, chimes in with the synchronic functions of optional O marking in an interesting way, as argued in detail in Iemmolo (2011). Still, we think the proposed pathway may need some refinement. Rather than 'topic marking' representing a developmental stage in its own right, between allative and dative, we would argue that topicalized left-dislocation, and similarly 'afterthought' constructions, should be seen as the appropriate syntactic environment for re-interpretation of datives as optional O markers. This is, in fact, reminiscent of the situation of focus marking constructions in the development of A marking, promoting reanalysis of indexicals in specific appositional constructions into

1227 ergative markers (as discussed in section 4.1.2).[12] In terms of the typology developed in

1228 sections 2 and 3, both of these instances can be interpreted as construction-based splits that

1229 serve as a diachronic pathway towards optional marking.

1230

1231 *Early stages of grammaticalization from datives into O markers*

1232

1233 In many Tibeto-Burman languages, we find a situation that resembles closely what we have

1234 just described for Romance languages, but that may nonetheless reveal an earlier stage in the

1235 grammaticalization process, given the apparently more restricted scope of usage of the

1236 resulting optional O marker. Many Tibeto-Burman languages show an extension of datives to

1237 optional O markers on animate and referential nouns, and sometimes on topical ones, but in a

1238 large number of languages the dative still takes precedence over the O argument for being

1239 overtly marked when they co-occur in the one structure (see further in Lidz 2012 and other

1240 papers in Chelliah & Hyslop eds 2011-2012).

1241   Burmese is a case in point. The dative postposition *-ko/-go*, which originates in an

1242 allative (Jenny & Hnin Tun 2016: 160-163), is typically used to mark recipient or beneficiary

1243 functions. As an accusative marker, *-ko/-go* shows both optionality and a referent-based split.

1244 It is obligatory on nominals with a human referent, such as personal pronouns, names, kinship

1245 terms and terms for professions, and optional with other semantic categories of nouns, with

1246 marking determined by discourse features such as topicality and referentiality. Significantly,

1247 in ditransitive predicates, only one noun may be marked by *-ko/-go,* and in this case, it is the

1248 dative which is 'favoured' over the O argument, as shown in the contrast between (29b) and

1249 (29a).

1250

1251 (29) Burmese (Tibeto-Burman ; Jenny & Hnin Tun 2016: 162, 163)

1252   a. tɕɑun-gəlè-go   khwé-gəlè   kɑiʔ-tɛ

1253   cat-DIM-OBJ   dog-DIM   bite-NFUT

---

[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.

1254   'The little dog bit the little cat.'

1255   b. θu.myà-go   di   ʔətɕàun   mə-pyɔ̀-nɛ́

1256   other.people-OBJ   this   matter   NEG-speak-PROH

1257   'Don't speak about this to others.'

1259   From a diachronic point of view, this type of polysemy is evidently quite harmonious

1260   with the case of Indo-European languages for the dative/allative > accusative shift, also for its

1261   pattern of generalization down the person hierarchy. Rather than explaining these phenomena

1262   in terms of a synchronic pattern as 'anti-ergative markers' used to disambiguate the ergative

1263   from other core roles in the clause (see LaPolla 1992, following Comrie 1975), we may

1264   usefully adduce the diachronic principle of persistence (Hopper 1991: 22), whereby traces of

1265   the original or earlier meaning remain after the reanalysis process sets in. It is therefore not

1266   surprising to find that when these dative markers extend in use to accusatives in early stages

1267   of grammaticalization, the semantic feature of the human or animate category may be carried

1268   over to this new accusative use, leaving a vestige of the prototypical dative case which codes

1269   a (human or animate) beneficiary or recipient.

1271   *4.2.2.   Lexical sources leading to datives and O markers*

1273   Unlike the case with A marking, the paths of grammaticalization leading to optional O

1274   marking can more readily be traced back to their lexical sources. In this section, we first

1275   discuss two source domains that are found mainly in Sinitic, and have not been described in

1276   much detail in the wider typological literature. Then we round off with a better-known pattern

1277   that is found in West Africa and large parts of Asia.

1279   *Verbs of giving and helping*

1281   Lexical sources that undoubtedly represent a much earlier stage in the grammaticalization

1282   process of O marking outlined in the previous section are the domains of giving and helping.

1283   Cross-linguistically, verbs of giving are well-known for furnishing benefactive or dative

1284   adpositions (Lord 1993, Newman 1996, Heine & Kuteva 2002, Heine 2009), but a secondary

1285   grammaticalization into optional O marking is a development which has taken place in a large

1286   number of Central Sinitic languages (Chappell 2013).

1287   This reanalysis takes place in the V_1 position of sentences with complex predicates

40

1288 whereby the first verb grammaticalizes into a benefactive preposition 'for' and then into an O

1289 marker. All uses can be found to co-exist synchronically. For example, in the languages of

1290 Hunan, the most common optional O marker, illustrated in (30b), derives from the main verb

1291 of giving, *pa⁴¹*, illustrated in (30a).[13]

1292

1293 (30) Changsha Xiang (Sinitic; Wu 2005: 188, 307)

1294   a. ma³³ma ei, pa⁴¹   lian⁴¹   kʰuai⁴¹   tɕiɛ̃¹³   ŋo⁴¹   lo

1295   mother PRT give   two   CLF   money   1SG   PRT

1296   'Mum, give me two dollars please.'

1297   b. paŋ³³   ŋo⁴¹   pa⁴¹   pei³³tsɪ   la³³   lai   lo³³

1298   for   1SG   OM   cup   bring   DIR   PRT

1299   '(Please) bring me the cup.'

1300

1301   Verbs of helping undergo the same development in Sinitic languages. While the

1302 grammaticalization from 'help' to benefactive is very common across all Sinitic languages

1303 (Kuteva & Heine forthc), the further stage of grammaticalization into an optional O marker is

1304 largely confined to the Wu, Hui, and Xiang branches. In (31), for instance, from the Jiangshan

1305 variety of Wu, the O marker is derived from the verb *pã⁴⁴* 'to help'.

1306

1307 (31) Jiangshan (Sinitic; Xu & Tao 1999:138)

1308   pã⁴⁴   ieʔ⁵ɕiŋ⁵⁵   gɯ²²   paɯ⁵⁵tɕie³⁵   thoŋ⁵⁵thoŋ⁵⁵   ma²²   tɐɯ⁵¹

1309   OM   this.CLF_PL   old   newspaper   all.RDP   sell   CMPL

1310   'Sell all these old newspapers.'

1311

---

[13] Note that this verb *pa⁴¹* is cognate with the O marker in Northern Sinitic, including Standard Mandarin, *pa²¹⁴* 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 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).

1312   From a semantic point of view, 'help' and 'give' verbs can be treated together for this

1313   path of grammaticalization in the syntactic context of earlier serial verb constructions (S

1314 V_1[help, give] O V_2) in which they first evolve into prepositions meaning 'for'. A subsequent

1315   development towards O marking can be linked to a bridging context (Evans & Wilkins 2000,

1316   Heine 2002) in which an action performed for someone's benefit also affects them. See

1317   further in Chappell, Peyraube & Wu (2011), who argue that this development is particularly

1318   evident with actions in the personal sphere where the beneficiary is also the patient (e.g. *The*

1319   *barber trimmed his beard for him.*).

1320

1321   *Comitative verbs*

1322

1323   A lesser known source domain for optional O markers are comitative verbs from which

1324   comitative prepositions arise. This development appears to be largely restricted to Sinitic,[14]

1325   where it is solidly attested for adpositions which have evolved from lexical sources meaning

1326   'to be together', 'to connect', 'to follow' or 'to mix (together)'.

1327   Once more, this development occurs in the typical syntactic context of V_1 in serial verb

1328   constructions of the form S V_1 O V_2 (see further in Chappell 2015). It is evident from the

1329   lexical sources of such verbs that they can all be associated with the semantic feature of

1330   accompaniment, the core value of the comitative. This is illustrated in (32) below, from a

1331   variety of Southern Wu (Taihu group), where a lexical verb, tseʔ⁴⁵, meaning 'stick together'

1332   developed a comitative use, illustrated in (32a), and an O marking use in (32b).

1333

1334   (32) Shaoxing (Sinitic; Xu & Tao 1999:142)

1335   a. ŋo¹³   tseʔ⁴⁵   noʔ¹²   ieʔ⁵teʔ⁵³saŋ⁵³   tɕʰi³³

1336   1SG   COM   2SG   together   go

1337   'I'll go together with you.'

1338   b. veʔ¹²   ɕia³⁵ɕiŋ⁵³   tseʔ⁴⁵   tsʁʔ⁴⁵   fo⁵³uɒ̃³⁵   saŋ⁵³   pha⁵³   dze⁰

---

[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.

| 1339 | | NEG.IMP | careful | OM | CL | vase | push.over-break | CRS |

| 1340 | | 'If you're not careful, you'll knock over the vase.' |

1341

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

'Take' verbs

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

The discourse and semantic conditions of use for these optional O markers have been clearly pinpointed for Sinitic and for many Southeast Asian languages: a definite, if not referential, O is required, representing given information (see Chappell 2013, and Iemmolo & Arcodia 2014). Furthermore, an interpretation of affectedness (though not of animacy) generally pertains to the outcome of the event for O. This is illustrated in (33) below, from Mandarin, where the Patient is marked with an O marker *ba³* [pa²¹⁴] derived from a verb meaning 'hold'. This example is taken from a conversation at the beginning of a novel describing the economic decline of a factory. The 'manager of the factory' represents a person known to the other characters in the story and thus represents a piece of given information. The fact that the manager is fired clearly fulfils the affectedness parameter. It is therefore a prime candidate for marking with this type of O marker.

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

ting¹shuo¹   mei²you³   shang⁴tou²   ba³   chang³zhang³   che⁴   le⁰

| 1373 | hear | NEG | boss | OM | factory.director | fire | LE |

1374   'Have you heard about it? The boss fired the manager.'

1375

1376 Given these discourse conditions, the aptness of verbs that mean 'take', 'hold' or 'grasp' is

1377 evident as a source for O marking: their inherent notion of manipulation of an object enables

1378 the change of state implication, that is, the feature of affectedness (see Table 3 above).

1379   In West African languages as well as Southeast Asian languages, the actual path from

1380 'take' to O marking may involve a stage marking instruments. In Twi, for instance, where O

1381 marking is associated with definiteness in some contexts (see Lord 1993: 111-113), the O

1382 marker derives from a verb meaning 'take, hold, possess, own' (Lord 1993: 70-71), as shown

1383 in (34a). In contemporary use it can introduce O as well as instrument, manner and

1384 comitative, as shown in (34b) for instrument and (34c) for O (note that the marker has

1385 forward semantic scope, even though it is represented as a suffix in the source).

1386

1387 (34) Twi (Niger Congo; Lord 1993: 70, 67, 66)

1388   a. ɔkɔm   de   me

1389   hunger   take   me

1390   'I am hungry.'

1391   b. o-de   enkrante   tya   duabasa

1392   he-DE   sword   cut   branch

1393   'He cut the branch with a sword.'

1394   c. o-de   afoa   ce   boha-m

1395   he-DE   sword   put   scabbard-inside

1396   'He put the sword into the scabbard.'

1397

1398   A similar observation can be made for Southeast Asia, for which Clark (1989) observes

1399 that 'take' serialization is endemic. This includes the relevant verbs of Thai (Tai-Kadai) *aw*,

1400 Hmong (Hmong-Mien) *muab* and Khmer *yɔ:k*, which may introduce both instruments and

1401 direct objects in clauses with complex predicates (of the structure S-*take*-O-V). The Khmer

1402 examples in (35) illustrate the use of *yɔ:k* for O marking (35a) and for instruments (35b).The

1403 structure in (35a) further also illustrates the availability of lexical and grammaticalized

1404 interpretations in the same structure; this accords with 'take' verbs as being at a very "young

1405 stage" of grammaticalization but just for these particular languages, as argued in Bisang

1406 (1992).

1407

1408 (35) Khmer (Austro-Asiatic; Bisang 1992: 73, 434)

1409   a. kɔ̀ət yɔ̀:k   khao-ʔa:v   tɨ̀u   ha:l   thŋay

1410   3SG   take   clothes   V_DIR   put   sun

1411   'He put the clothes in the sun/ He took the clothes and put them out in the sun.'

1412   b. kɔ̀ət yɔ̀:k   kambɤt   mɔ̀:k   kat   sac-crù:k

1413   3SG   take   knife   V_DIR   cut   pork

1414   'He cut the pork with a knife.'

1415

1416 **5. Conclusion**

1417

1418 Our survey of the diachrony of optional case marking suggests a number of generalizations

1419 about the origins and development of the markers involved. On the one hand, it shows that the

1420 origins of optional case markers overlap to quite some degree with their counterparts in

1421 'obligatory' systems, particularly in the development of instrumental, locative and ablative to

1422 ergative, or dative to accusative. On the other hand, there are also a few features that are

1423 specific to the origins of optional marking. First, the analysis shows that, in certain language

1424 families and linguistic areas, some of the common source domains for the dative stage

1425 preceding optional O marking can be traced back to very early lexical stages of 'give', 'help'

1426 and comitative verbs, which may contribute to the task of identifying recurrent mechanisms of

1427 reanalysis. Second, the survey also highlights the potential importance of information

1428 structure in the development of optional marking, either as a specific morphosyntactic source

1429 domain (e.g. with focus or indexical markers for ergative case), or as a constructional context

1430 inducing a particular path of grammaticalization (e.g. focus or topic constructions as a crucial

1431 stage towards case functions). Along the same lines, properties of source domains or

1432 constructions often continue to play a role in the current functions of case markers, as

1433 illustrated, for instance, by the continuing importance of information structure as the

1434 motivation behind optional A and O marking, or the affectedness constraint in optional O

1435 markers deriving from 'take' and 'hold' verbs.

1436   These observations actually bring us back to our typological starting point. The

1437 typological survey in the first part of this paper has shown that it is important for analytical

1438 reasons to regard optional, alternating, split and obligatory systems as distinct phenomena:

1439 they are logically distinct, and they have quite different typological properties. On the other

1440 hand, the discussion so far has also suggested quite strongly that there are interrelations

between the systems: different types can co-exist within one and the same language (sometimes in probabilistic ways), and/or within one and the same genetic unit. Given these links, the question is how exactly the different types relate to each other.

The most obvious question concerns the relation between optional and obligatory systems of case marking, and whether one can be regarded as a diachronic source for the other. The overlapping origins of optional and obligatory markers, and the co-occurrence of optional and obligatory systems in the same genetic unit (e.g. for A marking in Tibeto-Burman and in Pama-Nyungan, and for O marking in Romance), are strong indications that the two are diachronically related in some way. In the literature on optional marking, we can find indications about directionality, going either way. For instance, work on ergative marking in contexs of rapid change, e.g. in young people's varieties or obsolescent systems, has shown that an optional system can develop out of an obligatory one (e.g. Meakins & O'Shannessy 2010, see McGregor 2017: 462-463 for a survey). Conversely, for Tibeto-Burman, Delancey (2012) has pointed out that optional use of ergative markers can already be discerned in Old Tibetan texts, and has hypothesized, with LaPolla (1995), that an original optional system may have stabilized into an obligatory one in some Tibeto-Burman languages like Newar and Mizo. Coupe (2011) makes a similar point comparing the optional system of Mongsen Ao with the obligatory one in Chang. For Romance, Iemmolo (2010) uses a comparison between accusative marking in Old and Modern Sicilian to argue that the optional system in Old Sicilian has become generalized in a process of diffusion down the animacy hierarchy, leading to a loss of its original link with information structure in Modern Sicilian. In another view on directionality, Bossong (1991:154) contends that languages all have some kind of predisposition to develop optional O marking and that this typically involves some kind of formal restructuring and lexical replacement of older systems – which may also have been optional. Studies like these are definitely suggestive about the issue of directionality, but in general much more work is needed, including historical-comparative work and careful study of textual material in older stages, where that is available, in order to provide definitive answers to this question.

A second question concerns the relation between optional (and alternating) systems and split systems. Again, frequent co-occurrence of split and optional systems within one language suggests that there must be some kind of link. Our diachronic analysis has suggested at least one way in which the two types could be related. Both for the development of A and O marking, the analysis highlighted specific constructional contexts that induced grammaticalization towards case marking, e.g. focus constructions involving indexicals in

apposition on the way towards A marking in Australian languages, and topicalizing constructions involving dislocation on the way towards O marking in Romance. In both cases, the relevant stage could be regarded as a construction-based split, since it is the use of a particular construction that induces the use of a particular marker. Crucially, however, the constructional features inducing the split actually foreshadow the later functional specialization of the optional marker in terms of information structure, such as from topical to given and definite, and therefore can be regarded as forming a diachronic pathway towards an optional marker and beyond from its source domain. Still, as with the previous question, these are only suggestions, and more careful diachronic and typological work will be needed to answer these questions in a satisfying way.

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

6. Abbreviations used in the glosses

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

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1824

8. Tables

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	

1827 Table 1: Basic typology of alternations and optionalities

1828

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

1829 Table 2: Classic model of optional and differential marking

1830

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

1831 Table 3: Functions and distributions of optional and differential marking

1832

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1834   **9. Figure captions**

1835

1836   <u>Figure 1</u>: (one version of) the referential hierarchy (Silverstein 1976)

1837

1838   <u>Figure 2</u>: Referential hierarchy and markedness reversal

1839

1840   <u>Figure 3</u>: Grammaticalization chains for A (and/or S) markers

1841

1842   <u>Figure 4</u>: Grammaticalization chains for O markers

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1844