

# **Case and the syntax of argument indexation**

## **An analysis of Sorani Kurdish**

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## Abbreviations

*	ungrammatical construction
%	speaker variation
-	morpheme boundary
=	clitic boundary
#	semantic anomaly
()	optional
1, 2, 3	1st, 2nd, 3rd person
A	Set A in Mayan (ergative/possessive)
B	Set B in Mayan (absolutive)
ABS	absolutive
ACC	accusative
ADD	additive
ASP	aspect
AUG	augmentative
AUX	auxiliary
CL	clitic
CLF	classifier
COM / COMPL	completive aspect
COP	copula
DAT	dative
DEF	definite
DEM	demonstrative
DESID	desiderative
DFLT	default
DIR	direct
DIST	distal
DISTR	distributive
DUR	durative
ERG	ergative
EV	evidential
EZ	ezafe
F / FEM	feminine
FOC	focus
FUT	future
GEN	genitive
H	honorific
HAB	habitual
IND	indicative
INDF	indefinite
INFL	inflection
INST	instrumental

INVOL	involuntive
IPFV	imperfective
IRR	irrealis
ITR	iterative
L	L-suffix (in Aramaic)
LOC	locative
M/MASC	masculine
MID	middle
MP	morpho-phonological
MS	morpho-syntactic
NEG	negation
NOM	nominative
NON.FUT	non-future
NON.NOM	non-nominative
OBL / <i>Ø</i>	oblique
PASS	passive
PERF	perfect
PFV	perfective
PL	plural
POSS	possessive
PREP	preposition
<i>pro</i>	pronoun
PROG	progressive
PROX	proximal/proximate
PRS	present
PST	past
PTCP	participle
PVB	preverbal
REM	remote
S	S-suffix (in Aramaic)
SBJV	subjunctive
SG	singular
SUF	suffix
T	tense
TEL	telic

## **Preface**

[Preface and acknowledgments coming in a subsequent version]

### NOTES TO THE READER

- This is our first complete draft of this material. While we expect the core of the analysis to remain the same in revisions, some of the details are likely to be unstable relatively speaking. Feel free to consult with us about any questions concerning specific proposals.
- We are most likely not completely consistent with respect to capitalization conventions and related matters; apologies in advance.
- Comments are welcomed!

3 Case and agreement comprise the core of morphosyntax, and how these aspects of the  
 4 grammar interact continues to be a question of central importance in syntactic theory. This  
 5 book contributes to this discussion with a detailed analysis of the morphosyntax of Sorani  
 6 Kurdish, an Iranian language spoken in Iraq and Iran by ~5 million speakers (Ethnologue).  
 7 The specific focus of the work is on *argument indexation*: the manner in which **clitics** and  
 8 **agreement affixes** relate to arguments in the clause. The body of the book is a worked  
 9 out analysis of Sorani indexation that assumes the theoretical apparatus of the Minimalist  
 10 Program and Distributed Morphology. Though many of our primary foci are on theoretical  
 11 implications that are native to a certain type of contemporary syntactic theory, most of the  
 12 Sorani data that we provide is novel, as are many of the generalizations that we uncover;  
 13 we are therefore hopeful that the work will be of interest to researchers from a variety of  
 14 theoretical perspectives.

15 The Sorani indexation system involves two types of elements that are essentially bun-  
 16 dles of grammatical features: features related to person, number, and case. In a way that  
 17 we will be at pains to explain throughout the initial sections of this study, the terms we  
 18 used for indexers immediately above—*agreement affix* and *pronominal clitic*—combine both  
 19 morphosyntactic and morphophonological behaviors in a way that is not entirely helpful;  
 20 precisely what is at issue is whether the morphosyntactic behavior of an element deter-  
 21 mines its morphophonological properties. For this reason, when we are attempting to be  
 22 somewhat neutral on this matter, we will employ the cover terms *argument indexers* or  $\varphi$ -  
 23 *elements* for the morphemes whose status is at issue. We will use the abbreviation ‘MS’ for  
 24 morphosyntactic operations, the relevant ones for us being Agree and Move. We assume  
 25 that these operations apply in the narrow syntax. Correspondingly, we use the abbreviation  
 26 *MP* (MorphoPhonological) when we refer to an indexers morphophonological status.

### 27 **1.1 The primary arguments in outline**

28 One of the central points of interest in Sorani concerns the ways in which MS opera-  
 29 tions and their MP realizations are connected. Sorani shows a system of argument index-  
 30 ation in which an aspect-driven **alignment split** (conventionally called a *tense/stem*-based  
 31 split) interacts with agreement and movement to produce complex distributions of MP cli-  
 32 tics and affixes. The alignment split pairs Nominative/Accusative imperfectives with Erga-  
 33 tive/Objective perfectives (the use of *Objective* rather than *Absolutive* is justified later in



34 the discussion). Or, in terms more familiar from the literature on Iranian languages, the  
35 imperfective is Direct/Oblique, while the perfective is Oblique/Direct.

36 In transitive clauses, the split alignment manifests itself in a striking ‘mirror-image’  
37 effect, which is illustrated in (1). In the imperfective (1a), the transitive Subject is indexed  
38 by the italicized agreement morpheme *-în* on the verb, while the Direct Object is indexed  
39 by the boldfaced clitic =*yan*. In perfective (1b), the indexation pattern is the reverse: the  
40 clitic =*man* indexes the transitive Subject, while the agreement morpheme *-n* indexes the  
41 Direct Object:

- 42 (1) a. (ême) de=**yan** bîn-*în*  
1 PL.pro IND=3 PL.CL see.PRS-1 PL  
43 ‘We see them.’  
44 b. (ême) de=**man** bînî-*n*  
1 PL.pro PROG=1 PL.CL see.PST-PL  
45 ‘We were seeing them.’

46 The book analyzes transitive clauses like these, as well as other aspects of Sorani index-  
47 ation that are often not examined in theoretical discussions; including but not limited to  
48 intransitives, ditransitives, possessors and arguments of prepositions that enter the align-  
49 ment system, non-canonical subject constructions, and passives. The main findings that  
50 emerge from the study can be placed under three large headings. The first two (1.1.1-1.1.2)  
51 concern how morphosyntactic (MS) operations apply, and how their output is interpreted  
52 morphophonologically (MP). The third (1.1.3) centers on comparative matters: that is, the  
53 extension of our analysis of Sorani to a number of other languages, both within Iranian and  
54 beyond.

### 55 1.1.1 Case features and *Case Targeting*

56 We analyze the indexation system of Sorani with two MS operations; Agreement and Clitic  
57 Movement:

58 **MS Agreement** We assume that a syntactic agreement operation (e.g., a form of  
59 “AGREE”) applies so that the  $\varphi$  features of an argument appear on a head that agrees  
60 with it. In Sorani, Agreement probes are specified to apply once per clause.

61 **MS Clitic Movement:** The movement operation that we employ is one that is often  
62 called *clitic movement*. It applies to D(P) pronouns of a particular type– i.e. those that  
63 are represented as clitics, unlike e.g. full pronouns– and moves them to a higher head.  
64 In Sorani, Clitic movement can apply to multiple arguments per clause.

65 We argue that these operations must be specified to target arguments with specific case  
66 features. It has been proposed in the literature that MS probes can be specified to distin-  
67 guish between arguments with different cases: cf. *Case Discrimination* in Bobaljik (2008);  
68 Preminger (2014), where the idea is that certain arguments do not count as accessible for a  
69 particular MS operation. We adapt this idea in a way that involves **positive** statements, what

70 we call *Case Targeting*: a probe on a particular head may target nominals with a specific  
71 case feature (or set of case features), ignoring nominals while doing so. This is in essence  
72 a version for case features of what Deal (2021) has motivated in the domain of person and  
73 number to account for Person Case Constraint effects.

74 Regarding the case features themselves, we motivate a decompositional approach, in  
75 which case labels like ‘Ergative’ are replaced with features like [+oblique,+subject]. This  
76 aspect of the proposal extends ideas about case that play a role in theories of case spell-out  
77 (e.g. Halle and Vaux 1998; Calabrese 2008, and ultimately Jakobson 1936/1984, 1958/1984).  
78 This type of decomposition allows for analyses in which cases are grouped one way for the  
79 purposes of **syntactic**, but another way for morphological realization.

80 This aspect of the approach is illustrated in a number of case studies that are presented  
81 in the main body of the book; we will see some initial illustrations of how it functions in  
82 Sorani below in 1.2.

### 83 1.1.2 MS Operations and MP Packaging

84 On the morphophonological (MP) side, there are some different ways of identifying differ-  
85 ences between  $\varphi$  elements that make them more or less clitic- or agreement-like. One of  
86 these is part of what could be called phonology proper, and involves the types of interac-  
87 tions that these elements engage in with their hosts; for example, whether they are part of  
88 the same stress domain, or vowel harmony domain, or interact with word-level phonological  
89 processes.

90 A second sense is distributional, and concerns the position in which the  $\varphi$  element is  
91 found. While typical agreement morphemes show a relatively ‘fixed’ distribution— occur-  
92 ring, for example, as affixes on e.g. Tense or some other functional head— MP clitics often  
93 display more complex distributions. These include types of *second position* effects, which  
94 are what we will encounter in the analysis of Sorani below.

95 In this book, our primary focus will be on the distributional part of the MP ‘clitic versus  
96 agreement’ distinction. While we will offer a few suggestions concerning phonology proper  
97 in the pages to come, as well as returning to it in our general discussion, our primary focus  
98 is on two types of  $\varphi$  elements in Sorani that can be clearly distinguished MP-wise on the  
99 basis of their distributions. One of these is clearly an MP clitic, and occurs on various hosts;  
100 and the other is agreement (i.e. affix)-like, and occurs only on the verb. We refer to these as  
101 *MP Clitics* and *MP Agreement* respectively.

102 A key question that is addressed is how the MS operations of 1.1.1 (Agreement and  
103 Clitic Movement) relate to MP Agreement and MP Clitics. We argue that the Sorani system  
104 requires a theory that allows *mismatches* between MS Operations and their MP form. This  
105 is best illustrated in contrast to a *direct* view of these relations of the type stated in (2):

- 106 (2) Direct MS/MP relations (to be argued against)
- 107 a. Clitic-movement applies to  $\varphi \Rightarrow \varphi$  is realized as an MP *clitic*;
- 108 b. Agreement operation produces  $\varphi \Rightarrow \varphi$  is realized as an MP *agreement affix*.

109 In short form, (2) expresses the widely-held view that the MP status of an indexer is deter-  
110 mined by the MS operation that it is connected to.

111 In spite of the continued popularity of the view summarized in (2), different lines of  
112 research have arrived at the conclusion that it does not hold across the board. For example,  
113 works on the more MS side like Preminger (2009) and Kramer (2014) argue that certain  
114 instances of what appears to be object agreement morphology are in fact pronominal clitics.  
115 On the MP side, similar arguments have been made as well, with the usual one being that  
116 an MS clitic can interact with its host phonologically in a way that is typical of MP affixes.

117 Our Sorani case study brings both lines of argument together in the same system: as  
118 will be seen below, both MS Agreement and MS Clitic Movement are indexed with MP  
119 Agreement and MP clitics.

### 120 **1.1.3 Alignment and indexation: beyond NOM/ACC versus ERG/ABS**

121 At the center of this work are two distinct varieties of Sorani: Standard Sorani Kurdish  
122 (SSK) and Garmiani Kurdish (GK). Garmiani differs minimally from Standard Sorani Kur-  
123 dish (SSK) in that its perfective is Ergative/Accusative, not Ergative/Objective. It represents  
124 a situation that goes beyond a simple ‘Nominative/Accusative’ versus ‘Ergative/Absolutive’  
125 dichotomy, with a typologically unusual double oblique pattern that has been reported else-  
126 where in Iranian (see Akkuş 2020 and references cited there).<sup>1</sup> As we will see, analyzing  
127 SSK and GK together provides an important illustration of how our approach works: in  
128 particular, it will be shown that while the two differ in case assignment in the way de-  
129 scribed above, the mechanics of MS Agreement and Clitic Movement are identical in the  
130 two languages.

131 Besides Sorani, several other languages are analysed in this book with an eye towards  
132 (i) strengthening our understanding of cross-linguistic variation in alignment, and (ii) il-  
133 lustrating the possible loci of variation that our theoretical proposals posit. In addition to  
134 working through the details of Garmiani Kurdish we present analyses of several other lan-  
135 guages, both within Iranian (Laki, Kurmanji Kurdish, Zazaki, Persian, Rushani, Shughni)  
136 and more broadly; on the latter front, this includes analyses of Hindi, Nepali, Gujarati, and  
137 Maithili (Indo-Aryan), Nukuoro (Polynesian), as well as Arabic and Neo-Aramaic varieties  
138 (Semitic).

139 \* \* \*

140 The implications of these arguments are examined in the concluding chapter, where  
141 we also compare our main claims against plausible alternatives (and show why we believe  
142 things work in the manner outlined immediately above). Along the way, we will identify  
143 a number of further topics of theoretical interest. In this initial chapter, we will provide an  
144 overview of our main results in outline form. This is intended to serve both as a summary  
145 of the work’s primary contributions, and as a foundation for the more detailed chapters to  
146 come.

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<sup>1</sup>This pattern is described as ‘hardly attested’ (Haspelmath 2008) and ‘exceedingly rare’ (Velupillai 2012).

147 **1.2 The analysis of Sorani indexation: Transitive clauses**

148 The primary case study in our work is Standard Sorani Kurdish (SSK), a variety associated  
 149 with the city of Sulaymaniyah in Iraq; as noted earlier we also analyze the closely related  
 150 Garmiani variety (GK). Throughout this work we will use *Sorani (Kurdish)* as a cover term  
 151 to refer to properties found in both varieties. It bears noting at the outset that a great deal  
 152 of the data that we present is novel; co-author M. Salih is a native speaker of both SSK and  
 153 GK, and our examples have been checked with a number of additional speakers.

154 The aspect-based alignment split seen in Sorani has its origins in ancient Iranian (Old  
 155 Persian, or before); see Haig (2008) and references cited there. On our analysis, the split  
 156 is determined by the presence or absence of a perfective head Asp[perf]: transitive clauses  
 157 without this head are Nominative/Accusative; when it is present, they are Ergative/Objective.<sup>2</sup>

158 A point worth emphasizing is that the manifestation of the split is seen exclusively in  
 159 the system of argument indexation: Sorani lacks overt case morphology on noun phrases.  
 160 Argument indexation differs in the two aspects as initially illustrated in (3), repeated here:

- 161 (3) a. (ême) de=**yan** bîn-în  
 1 PL.pro IND=3PL.CL see.PRS-1 PL  
 162 ‘We see them.’  
 163 b. (ême) de=**man** bînî-n  
 1 PL.pro PROG=1 PL.CL see.PST-PL  
 164 ‘We were seeing them.’

165 Transitive clauses always contain both an MP clitic and an MP agreement marker; the  
 166 arguments these correspond to is reversed across aspects, as summarized in (4):

167 (4) Sorani transitive indexation

168

	MP-CLITIC	MP-AGREEMENT
IMPERFECTIVE	DO	Subject
		×
PERFECTIVE	Subject	DO

169 One of the many analytical challenges posed by this pattern concerns how probes are  
 170 structured. It appears that there are two heads that are active in the Sorani system: one that  
 171 interacts with oblique arguments (Accusative Objects in the imperfective; Ergative Subjects  
 172 in the perfective) and one with direct arguments (Nominative Subjects in the imperfective;  
 173 Objective Objects in the perfective). We refer to the first of these heads as  $\mathcal{O}$ , signalling its  
 174 interaction with obliques; the second of the heads bearing probes is T(ense).

175 The question to be addressed is how the probes on these heads must function in order  
 176 to produce the alignment pattern summarized in (4)– and (crucially) the alignment found  
 177 in other types of clauses (intransitive, possessive, ditransitive) as well. At a minimum, a

<sup>2</sup>It is more common to see the split referred to as *tense-based*; we analyze it in terms of Aspect for reasons that are discussed in Chapter 3

178 worked-out analysis must specify (i) how a probe interacts with a particular argument; and  
 179 (ii) how these interactions correspond to realization as MP clitics or agreement morphemes.

180 Our analysis involves the sequence of steps that are given in (5):

181 (5) *Order*:

- 182 a. Creation of basic clause (perfective or not) >
- 183 b. case assignment >
- 184 c. MS (clitic-) Movement and Agreement operations >
- 185 d. PF-realization of  $\varphi$  bundles.

186 We will elaborate on each of these steps in turn. Before doing this, it is crucial to  
 187 clarify a further point about the indexation pattern seen in (3). This concerns the way in  
 188 which MS operations interact with Subjects and Direct Objects. While the indexation pat-  
 189 tern is reversed in the way shown in (4), the syntactic relationship between an argument  
 190 and its indexer is constant throughout the system. In particular, Subjects are targets of MS  
 191 Agreement, and (when overt) always co-occur with an indexer in both aspects. Overt Direct  
 192 Objects (and Indirect Objects), on the other hand, are in complementary distribution with  
 193 indexers in both aspects. These facts are illustrated in (6-7): the A argument is obligatorily  
 194 indexed, be it in the form of MP-Agreement (6a) or MP-Clitic (7a). On the other hand, the  
 195 O argument cannot be indexed, irrespective of the MP-Agreement (6b) or MP-Clitic (7b).  
 196 The same facts about the O argument are shown in (6c)-(7c) with a common object as well.

- 197 (6) a.  $\boxed{\text{to}}$  de=**man** bîn- $\boxed{*(\hat{t})}$  → *the A MP-Agr must appear*  
 2SG.pro IND=1PL.CL see.PRS-2SG  
 198 ‘You see us.’
- 199 b. to  $\boxed{\hat{e}me}=\mathbf{t}$  de-bînî- $\boxed{*(\hat{t}n)}$  → *the O MP-Agr can’t appear*  
 2SG.pro 1PL.pro=2SG.CL PROG-see.PST-1PL  
 200 ‘You were seeing us.’
- 201 c. min  $\boxed{s\hat{e}w-ek-an}=\mathbf{im}$  bînî- $\boxed{*(n)}$  → *(same as b)*  
 1SG.pro apple-the-PL-1SG.CL see.PST-PL  
 202 ‘I saw the apples.’
- 203 (7) a.  $\boxed{\text{to}}$  de= $\boxed{*(\mathbf{t})}$  bînî- $\boxed{[t]n}$  → *the A MP-clitic must appear*  
 2SG.pro PROG=2SG.CL see.PST-1PL  
 204 ‘You were seeing us.’
- 205 b.  $\hat{e}me$   $\boxed{ewan}=\boxed{*(\mathbf{yan})}$  de-bîn-în → *the O MP-clitic can’t appear*  
 1PL.pro 3PL.pro=3PL.CL IND-see.PRS-1PL  
 206 ‘We see them.’
- 207 c. min hemu roj-êk  $\boxed{\text{John}}=\boxed{*(\hat{\mathbf{i}})}$  de-bîn-*im*. → *(same as b)*  
 1SG.pro every day-a John=3SG.CL IND-see.PRS-1SG  
 208 ‘I see John every day.’

209 On the basis of this and further arguments we conclude that Subject indexers are pro-  
 210 duced by MS Agreement, while Object indexers are the product of MS Clitic Movement:

- 211 (8) a. Overt DP arguments always co-occur with subject indexers.  
 212       ⇒ Subject  $\varphi$  indexers are the product of MS Agreement.  
 213       b. DO/IO indexers never co-occur with an overt DP argument.  
 214       ⇒ DO/IO  $\varphi$  indexers are MS clitic pronouns.

215 **Case assignment** Case assignment in Sorani transitive clauses differs in an aspect-sensitive  
 216 way. Our analysis requires that case features be assigned prior to MS Agreement and Clitic  
 217 Movement (cp. Bobaljik 2008; Preminger 2009; Akkuş 2020). In this work we do not rely  
 218 on a specific theory of case assignment. Rather, the premise is that cases can be identified  
 219 on the basis of distinctions made in the indexation system (and in the realization of  $\varphi$  el-  
 220 ements).<sup>3</sup> Based on these factors, we treat the Sorani system with the four cases shown in  
 221 (9); these are defined by crossing the features [ $\pm$ subject] and [ $\pm$ oblique]:

222 (9) Sorani cases

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
223 <b>subj(ect)</b>	+	+	-	-
<b>obl(ique)</b>	-	+	+	-

224 The aspect-determined alignment split is then as in (10):

225 (10) Sorani cases by aspect

- 226 a. *Imperfective*:
- 227     i. Subject [+subj,-obl] = Nominative
- 228     ii. Object [-subj,+obl] = Accusative
- 229 b. *Perfective*:
- 230     i. Subject [+subj,-obl] = Ergative
- 231     ii. Object [-subj,-obl] = Objective

232 Although we do not develop a theory of how case features are assigned, this work contains  
 233 numerous observations and analyses that provide important insight into how this part of  
 234 the theory must work. These appear throughout the book and are brought together in the  
 235 concluding chapter.

236 **Probes** As noted earlier, our analysis is based on the idea that there are two heads that  
 237 possess probes in Sorani: Tense and  $\mathcal{O}$ . Each of these heads has two MS probes: one for  
 238 Agreement, and one for Clitic Movement. These target cases in the ways stated in (11):

239 (11) Properties of heads

---

<sup>3</sup>And, of course, in terms of overt case-marking on DPs, in languages that (unlike Sorani) have this.

- 240 a. T { AGREES with [+subj, -obl] arguments (Target: Nominative)  
 MOVES [-subj, -obl] clitics (Target: Objective)
- 241 b.  $\emptyset$  { AGREES with [+subj, +obl] arguments (Target: Ergative)  
 MOVES [-subj, +obl] clitics (Target: Accusative)

242 It is the fact that each of these heads possesses two probes that provides the basis for the  
 243 mirror-image effect seen in imperfective and perfective transitive clauses. T interacts with  
 244 Subjects in the perfective, and Objects in the imperfective.  $\emptyset$ , conversely, operates with  
 245 Subjects in the perfective, and Objects in the imperfective.

246 **MP Realization** The final step concerns how  $\varphi$  elements are realized. As summarized in  
 247 (11), each of T and  $\emptyset$  probe for arguments with two different cases. Though distinct, the  
 248 targeted cases share a feature: both of those targeted by T are [-obl], while those interacting  
 249 with  $\emptyset$  are [+obl]. Crucially, morphological realization of  $\varphi$  bundles is sensitive to case  
 250 features; and— due to the underspecification of the relevant Vocabulary Items— it produces a  
 251 situation in which each  $\varphi$  element realizes more than one case. In particular, the Vocabulary  
 252 is sensitive to the [ $\pm$ obl] distinction, and produces the following syncretisms:

- 253 (12) a. [+obl]  $\varphi$  bundles are realized as MP Clitics (Ergative, Accusative)  
 254 b. [-obl]  $\varphi$  bundles are realized as MP Agreement (Nominative, Objective)

255 So, for example, in imperfective (3a) MS Agreement puts the Subjects' [+1,-2,-obl] features  
 256 on T; the [-1,-2,+obj] Object is MS Clitic moved to  $\emptyset$ . By (12) these morphemes are real-  
 257 ized as the MP Agreement *-in* and the MP Clitic *=yan* respectively. In perfective (3b) MS  
 258 Agreement produces a  $\varphi$  bundle with [+1,-2,+pl,+obl] on  $\emptyset$ , while MS Clitic Movement  
 259 places a  $\varphi$  bundle with [-1,-2,+pl,-obl] on T. The former is realized as the MP Clitic *=man*,  
 260 and the latter as the MS Agreement marker *-n*.

261 \* \* \*

262 To summarize, our analysis is centered on three components which (though connected)  
 263 function independently of one another:

- 264 • Case assignment, which in Sorani is sensitive to Aspect in the alignment system;
- 265 • probes that effect MS operations, which target specific case features; and
- 266 • morphological realization of  $\varphi$  bundles, which makes reference to case features.

267 This analysis, which we show to be superior to alternatives, requires that MS Operations  
 268 do not have a single MP realization: both MS Agreement and MS Clitic Movement may  
 269 produce MP Agreement and MP Clitics:

- 270 (13) MS/MP mismatch
- 271 a. MS Agreement is indexed as

- 272 i. MP Agreement (Imperfective Subject)
- 273 ii. MP Clitic (Ergative Subject)
- 274 b. MS Clitic Movement is indexed as
  - 275 i. MP Agreement (Perfective Object)
  - 276 ii. MP Clitic (Imperfective Object)

277 Chapter 4 of this book works through the steps summarized in this section in detail; Chap-  
 278 ter 6 discusses pertinent alternatives to our primary claims, and shows why we take the  
 279 evidence to support our approach.

### 280 1.3 Further components of the analysis

281 An important aspect of the present work is that it extends the analysis of indexation to  
 282 clauses beyond typical transitives. Although analyses in the literature do not always do this,  
 283 it turns out to be quite important. For one, many conceivable approaches to the indexation  
 284 in split-alignment systems make correct predictions concerning transitives, but are unable  
 285 to account for the indexation of **in**transitives. In addition to this basic (and in our opinion  
 286 underappreciated) point, broadening the investigation to further clause types reveals a num-  
 287 ber of phenomena of interest. For Sorani in particular, we have identified cases in which  
 288 (i) arguments of prepositions and possessors enter the indexation system; (ii) certain pred-  
 289 icates show Ergative subjects in a way that is not sensitive to aspect; and (iii) one type of  
 290 passivization of a ditransitive produces a derived Ergative Subject. We outline each of these  
 291 points in turn.

#### 292 1.3.1 Possessors and arguments of prepositions

293 Possessors and the arguments of prepositions can also enter the indexation system of Sorani.  
 294 Such arguments can be realized in expected positions: for example, in possessive (14a),  
 295 the clitic =*man* is internal to the possessed DP, while in ditransitive (15a) the IO is the  
 296 clitic =*yan* attached to the preposition that precedes it. But Sorani also allows for further  
 297 possibilities. In perfective clauses, for example, these arguments can be realized as MP  
 298 Agreement on the verb, as shown in (14b)-(15b):

- 299 (14) a. Otombel-aka=**man** de-be-*n*  
 car-the=1PL.CL IND-take.PRS-PL  
 300 ‘They take our car away.’
- 301 b. Otombel-aka=**yan** bird-**în**  
 car-the=3PL.CL take.PST-1PL  
 302 ‘They took our car away.’
- 303 (15) a. ew ême=**y** bo=**yan** nard  
 s/he us=3SG.CL to=3PL.CL send.PST  
 304 ‘S/he sent us to them.’



305           b. ew ême=y      bo nard-in  
                   s/he us=3SG.CL to send.PST-3PL  
 306                   ‘S/he sent us to them.’

307           This effect is restricted to the perfective; the imperfectives corresponding to these ex-  
 308           amples are ungrammatical:

- 309   (16)   a. \*Otombel-aka de-be{-n-în/-yn-in}  
                   car-the           IND-take-PL-1PL/-1PL-PL  
                   ‘They take our car away.’  
 310  
 311           b. \*ew ême bo de-nêrê{-t-in/-in-it}  
                   s/he us   to IND-send-3SG-3PL/3PL-3SG  
 312                   ‘S/he sends us to them.’

313           The pattern of indexation seen in (14b)-(15b) is that displayed by arguments with Objec-  
 314           tive case: it is the way in which Direct Objects are indexed in the perfective. Like with DOs,  
 315           possessor indexation also behaves like an instance of MS Clitic Movement– realization of  
 316           the Possessor or Prepositional argument as MP Agreement on the verb is complementary to  
 317           any coindexed argument.

318           Our proposal is that this effect happens only in the perfective because it is **case-driven**.  
 319           When there is an Objective case DO in the clause, Possessors and Prepositional comple-  
 320           ments may also be assigned Objective. This is essentially a kind of case attraction effect.  
 321           The realization of the Clitic-moved Objective pronoun as MP Agreement then follows from  
 322           the same mechanisms that are posited for transitive clauses.

323           Further evidence that the effect arises from these arguments matching the case of the  
 324           DO can be seen in the imperfective, where DOs have Accusative case. When objects of  
 325           Prepositions are displaced in this aspect, they are realized as MP Clitics as shown in (17b):

- 326   (17)   a. ew       ême bo=**yan**    e-nêrê-t  
                   3SG.pro us   to=3PL.CL IND-send-3SG  
 327                   ‘S/he sends us to them.’  
 328           b. ew       ême=**yan**    bo e-nêrê-t  
                   3SG.pro us=3PL.CL to IND-send-3SG  
 329                   ‘S/he sends us to them.’ (GK/SSK)

330           That is, they behave exactly as expected if they have Accusative case like the DO.

331           Continuing with this line of reasoning, recall that in Garmiani Kurdish (GK) DOs have  
 332           Accusative case in both aspects. In this variety the effect illustrated in (17b) can also take  
 333           place in the perfective, as shown in (18b); cp. SSK (15b):

- 334   (18)   a. ew       ême=y      bo=**yan**    nard  
                   3SG.pro us=3SG.CL to=3PL.CL send.PST  
 335                   ‘S/he sent us to them.’

336           b. ew       ême=**yan**=î       bo nard  
               3SG.pro us=3PL.CL=3SG.CL to send.PST  
 337           ‘S/he sent us to them.’ (GK/\*SSK)

338       To summarize, the extension of the analysis of indexation to P-arguments reveals several  
 339 new aspects of Case Targeting, and shows sensitivity to what appears to be a contextual  
 340 effect on case assignment.

### 341 1.3.2 Non-canonical subjects

342 As we saw earlier, the aspectual split between imperfective and perfective plays a central  
 343 role in the Sorani indexation system. It is for this reason that we examine closely two fur-  
 344 ther types of construction in the language in which there are **Ergative Subjects in both**  
 345 aspects. These correspond to what are often referred to as *Non-Canonical Subject* construc-  
 346 tions (NCSs). These are lexically restricted, and fall under two distinct types which are  
 347 exemplified by *want* in (19) and what we refer to as *clausal possession* in (20):<sup>4</sup>

- 348 (19) a. min     kitêb=**im**     de-wê.  
           1SG.pro book=1SG.CL IND-want.PRS  
 349           ‘I want book/books.’  
 350       b. min     kitêb=**im**     wîst.  
           1SG.pro book=1SG.CL want.PST  
 351           ‘I wanted book/books.’  
 352 (20) a. ême     kitêb=**man**   he-(y)e.  
           1PL.pro book=1PL.CL exist-COP.PRS  
 353           ‘We have books.’ (Kareem 2016:137, (55))  
 354       b. ême     qalam-an=**man** ha-bû.  
           1PL.pro pen-PL=1PL.CL exist-COP.PST  
 355           ‘We had some pens.’ (Thackston 2006b: 26)

356       In both of these constructions, we demonstrate that the Ergative argument has the prop-  
 357 erties of a typical Subject. The two constructions differ from each other in other ways,  
 358 though. On our analysis, in the *want* type, the Subject is assigned Ergative by virtue of being  
 359 introduced in the specifier of an Applicative head. In the clausal possession construction, on  
 360 the other hand, the Subject there originates inside the possessed DP, where it is licensed by  
 361 a functional head. From this position, it is moved out of the possessed DP, and functions as  
 362 the subject of the clause. Strikingly, clausal possession shows ‘double subject’ properties:  
 363 the possessor agrees in the way typical of Ergative arguments, and the possessum agrees  
 364 (optionally) in the way expected of Nominative arguments.

365       Aspect-insensitive ergativity has important implications for how the indexation system  
 366 is analyzed. In the view we develop, it arises through how case is assigned to the arguments  
 367 in question: that is, in an aspect-insensitive way. Once this takes place, the mechanics of  
 368 indexation behaves as expected given the probes we motivated in our analysis of transitives.

<sup>4</sup>There is also a monoargumental type, for predicates like ‘be cold.’

369 **1.3.3 Passivization of ditransitives**

370 The passivization of transitives in Sorani produces Nominative subjects in both aspects.  
 371 This is expected under the relatively standard scenario in which the typical case borne by  
 372 a DO is not assigned in passive clauses. Passivization on Direct Objects of ditransitives is  
 373 also unexceptional; the DO becomes the Subject, and, as expected, is Nominative. How-  
 374 ever, ditransitives also allow a second passive option; and this one has some very unusual  
 375 properties. It is shown in (21) in imperfective and perfective aspects, respectively:

- 376 (21) a. ême dyarî-ek-an=**man** pê-de-d-rê-(n).  
 1 PL.pro gift-the-PL=1 PL.CL to-IND-give.PRS-PASS.PRS-PL  
 377 ‘We will be given the gifts.’  
 378 b. ême dyarî-ek-an=**man** pê-di-ra-(n).  
 1 PL.pro gift-the-PL=1 SG.CL to-give.PRS-PASS.PST-PL  
 379 ‘We were given the gifts.’

380 In short form, the surface subject in the IO passive shows the indexation pattern typical of  
 381 Ergatives, in a way that is not sensitive to aspect. In addition, the DO is indexed (optionally)  
 382 with MP Agreement, in a way that is typical of Nominative case. The resulting pattern– a  
 383 derived Ergative subject– is typologically unusual to say the least.

384 We hypothesize that the IO passive patterns arise for essentially the same reasons that  
 385 they do in clausal possession; that is, that these two configurations share a structural prop-  
 386 erty, a lower argument (in IO passives, the patient) being moved over a higher one. If this  
 387 analysis of the IO passive is correct, then there are two configurations in Sorani with derived  
 388 Ergatives, and with dual-subject properties (i.e. agreement with a Nominative argument as  
 389 well).

390 **1.4 Theoretical conclusions and implications**

391 After working through the details of Sorani indexation in Chapters 4 and 5 we present a  
 392 theoretical discussion in Chapter 6 that compares pertinent alternatives to the positions we  
 393 develop and assesses the implications of our analyses. The three major headings in this  
 394 discussion are as follows.

395 **1.4.1 Case features**

396 We argue both for Sorani and in other case studies that case labels like *Nominative*, *Ergative*,  
 397 etc. should be taken as short hand for sets of binary features. The kind of representation that  
 398 we employ is ‘flat’; as shown in (22), the features are simply cross-classified:

399 (22) Sorani cases

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
400 <b>subj(ect)</b>	+	+	-	-
<b>obl(ique)</b>	-	+	+	-

401 Breaking down case labels in this way is a return to a view that is advanced in Neidle  
402 (1982a,b), and which otherwise has been employed in analyses of case forms; cf. Halle  
403 (1997) and Halle and Vaux (1998). Ultimately this type of approach has its roots in the work  
404 of Jakobson (1936/1984, 1958/1984), and many accounts have used representations that go  
405 beyond what we have in (22), often in ways that are influenced by theories of markedness.  
406 With this in mind, our theoretical discussion concentrates on two alternatives to the (22)-  
407 style representation of case features.

408 The first— perhaps better viewed as a point of reference rather than an alternative— ap-  
409 peals to hierarchies of the type *unmarked* > *dependent* > *lexical*, and play a prominent role  
410 in the literature on case-agreement interactions (cf. Bobaljik 2008, 2017). We examine the  
411 this kind of hierarchy in the context of the Sorani system, and show how our feature system  
412 accounts for the generalizations that this hierarchy is intended to explain. The major ques-  
413 tions here are what role (if any) hierarchies like this play a role in grammatical operations;  
414 and whether it is indeed possible for grammatical operations that are case-targeting to group  
415 cases in an ‘unnatural’ way.

416 We consider in addition a second type of case representation that differs substantially  
417 from ours in taking cases to be in a markedness-determined containment relation. In this  
418 type of approach, hierarchies of another type are employed: more marked cases are built on  
419 top of less marked ones, so that a case like e.g. Accusative structurally contains Nominative  
420 (cf. Caha 2009). We demonstrate that this type of representation produces difficulties when  
421 employed in a system with Case Targeting. In short form, the kinds of classes that need to  
422 be referred to in accounting for indexation can be produced only by stipulation.

423 To summarize, what our approach requires that the syntax distinguish a certain number  
424 of abstract cases (for Sorani three or four, depending on the variety), and that these distinc-  
425 tions be referred to by the agreement and clitic movement operations. Though case features  
426 are necessary to the approach in this way, it is not our intention to give a theory of how  
427 the arguments in question come to be assigned the features that they wind up with. Rather,  
428 we will posit features on the basis of the partitions in MS behavior that they produce in the  
429 indexation system. In this way, this aspect of the approach is abstract— an abstraction on an  
430 abstraction, in a sense, since the question of how case features are ‘grounded’ is a difficult  
431 one. At the same time, we believe that the analyses developed here will contribute to these  
432 lines of research, in addition to speaking to the theoretical discussions referred to above.

#### 433 1.4.2 Case targeting

434 A central claim in our work is that MS operations may target specific case features in the  
435 ways illustrated above. As part of the argument that the grammar works in this way, we  
436 consider alternative proposals, and show where they have difficulties in accounting for the  
437 facts of Sorani.

438 To take one example, one way to eliminate case from the equation is to have heads tar-  
439 get only the highest argument that has not been targeted by another operation. This kind of  
440 ‘height only’ approach is motivated by the fact that it appeals to a kind of locality that clearly  
441 plays a role in morphosyntax. In the case of alignment splits, Kalin and van Urk (2015), for  
442 example, employ this kind of system to analyze indexation in certain Neo-Aramaic vari-

443 eties. We show that while height only may work for certain systems, it cannot be extended  
444 to systems like Sorani, where it makes incorrect predictions; Subjects of intransitives, for  
445 example, should be Ergative in the perfective, contrary to fact. Solutions to this problem  
446 make reference to transitivity, which effectively introduces an argument's case into the pic-  
447 ture: precisely the position we have adopted. To drive these points home, we make the  
448 same points in an examination of additional varieties of Neo-Aramaic that show indexation  
449 patterns beyond those analyzed in [Kalin and van Urk \(2015\)](#).

450 Another type of analysis that does not employ case targeting to produce the alignment  
451 split manipulates either (i) probe structure, or (ii) the relative height of the Subject and  
452 Direct Object when MS operations apply. For the former, it might be held, for example, that  
453 there are two probes in Sorani responsible for indexation—  $P_1$  and  $P_2$ , and that the height  
454 of these probes differs by aspect: in the imperfective  $P_1$  is higher than  $P_2$ , while in the  
455 perfective the reverse situation obtains. While it looks intuitively like this might produce the  
456 mirror-image effect seen in Sorani indexation, this account fails to make correct predictions  
457 for relatively simple cases— for the way in which the Subjects of intransitives are indexed,  
458 for example.

459 A second type of alternative to consider posits a difference in argument height in the two  
460 aspects. Stated abstractly, the idea is that probe structure is the same in both imperfective  
461 and perfective clauses, but the relative height of the Subject and Direct Object differ when  
462 MS operations apply. Schematically, this option is as follows:

463 (23) Manipulating argument height

464 When probes  $P_1$  (“Direct”) and  $P_2$  (“Oblique”) apply....

- 465 a. IMPERFECTIVE:  $S > DO$ ;  $P_1$  finds the Subject, and  $P_2$  the Direct Object.  
466 b. PERFECTIVE:  $DO > S$ ;  $P_1$  finds the Direct Object, and  $P_2$  the Subject.

467 The intuition at play here is that the alignment split can be derived by having the probes find  
468 different arguments in each aspect. With  $P_1$  linked to direct (=MP affix) realization, and  $P_2$   
469 to oblique (=MP clitic) form, the indexation should flip across aspects.

470 In order to function properly, this type of account requires that probes apply in sequence:  
471 in particular,  $P_1$  must seek a goal prior to  $P_2$ .  $P_2$  must then apply in a way that ignores the  
472 argument that  $P_1$  finds. In the imperfective, this means that  $P_2$  ignores the Subject, and finds  
473 the Direct Object. In the perfective,  $P_2$  ignores the Direct Object, which is inactive due to  
474 having been found by  $P_1$ ; similarly, in the imperfective  $P_2$  must ignore the Subject and find  
475 the Direct Object.

476 This account has some advantages over the probe reversal one, but still is inferior to  
477 Case Targeting. It predicts, for example, that in clauses with two DPs (i.e., non clitics) that  
478 there should always be double agreement, since T and  $\mathcal{O}$  should always agree with the  
479 Subject or the Direct Object (in a way that depends on argument height). In addition, there  
480 is no evidence for positing a difference in argument height in the two aspects.

481 We conclude from these comparisons that case-sensitivity is required in some form in  
482 order to account for the full range of facts that comprise the Sorani indexation system.

483 **1.4.3 MS/MP mismatches**

484 As we noted at the beginning of this chapter, a widely-held view connects a  $\varphi$  element's  
485 morphophonological behavior to its morphosyntactic provenance. On this kind of *Direct*  
486 view, the relations are predicted to be as follows:

487 (24) Direct MS/MP relations

- 488 a. Clitic-movement applies to  $\varphi \Rightarrow \varphi$  is realized as an MP *clitic*;  
489 b. Agreement operation produces  $\varphi \Rightarrow \varphi$  is realized as an MP *agreement affix*.

490 The indexation patterns in Sorani involve argument indexers that can be neatly divided  
491 into MP Agreement and MP Clitics based on their forms and their distributions. But this  
492 realization does not correlate with how a  $\varphi$  element receives its features. On our analysis,  
493 MS Agreement produces both MP clitics and MP agreement; and, similarly, MS Clitic  
494 Movement produces both MP clitics and MP agreement. That is, in contrast to what is  
495 expected given (24), our analysis of Sorani posits two mismatches between MS operations  
496 and their MP realization:

- 497 • **Mismatch 1** Our analysis holds that MS Clitic Movement attaches [-subj,-obl] pro-  
498 nouns to Tense, where they are realized as MP Agreement morphemes.
- 499 • **Mismatch 2** Our analysis holds that an MS Agreement probe on  $\mathcal{O}$  targets [+obl,+subj]  
500 arguments, and realizes their features as MP Clitics.

501 We consider two alternatives that do not generate these mismatches in Chapter 6.

502 First, it is possible that what we treat as MS Clitic Movement being realized as an MP  
503 agreement affix could be analyzed as MS Agreement with an obligatorily null pronominal  
504 (cf. Taghipour and Kahnemuyipour 2021; Nabors et al. 2019). Second, what we treat as MS  
505 Agreement being realized with an MP Clitic could instead be *clitic doubling*. We demon-  
506 strate that the facts of Sorani are better treated in the way that we have outlined above,  
507 rather than with one of these approaches; in particular, these alternatives require a number  
508 of unmotivated stipulations to get off of the ground, and fail to account for several basic  
509 generalizations in the Sorani system.

510 The upshot of this line of argument is that MS/MP relations are potentially indirect—  
511 a conclusion that has been reached in both more syntactically oriented work, and work  
512 focusing on morphophonology.

513 **1.5 Plan**

514 Having outlined the main positions that are defended in this book, we will now move on to  
515 develop them in detail.

516 We start with two chapters of an introductory nature. First, Chapter 2 presents the  
517 architectural assumptions and theoretical tools that we will make use of throughout the  
518 book. This chapter frames our Case Targeting approach with reference to the literature on

519 case/agreement interactions, and provides four case studies from Indo-Aryan showing Case  
520 Targeting works, and how it interacts with other aspects of the theory.

521 Chapter 3 is an introduction to Sorani Kurdish. It concentrates on the basic syntactic  
522 properties– clause structure and word order– along with the important question of how  
523 subjecthood diagnostics work in this language.

524 The core of the analysis is developed in Chapters 4 and 5. Chapter 4 concentrates on  
525 transitive clauses, while Chapter 5 extends the analysis to possessors and prepositional ar-  
526 guments, Non Canonical Subjects, and passives of ditransitives. Each of these two chapters  
527 also contains a section that makes comparative observations, with discussion of languages  
528 both inside the Iranian family and outside of it.

529 Finally, Chapter 6 is oriented towards theoretical alternatives, and to the implications  
530 of what we have argued for. Our three main positions are those in 1.4: the decomposition  
531 of syntactic cases into features; the idea that MS operations can be Case Targeting; and the  
532 potential indirectness of MS/MP relations. We identify and develop alternatives to each of  
533 these claims, and show why we believe our positions to be best supported by the evidence.

534

يآللا، با دهست پښبکهین!

535

*Yalla, ba dest pêbikeyn!*

536

[Let's do this!]

539 The core of this book, consisting of Chapters 4 and 5, develops an analysis of the argu-  
 540 ment indexing patterns found in Sorani Kurdish. The key interactions there involve mor-  
 541 phosyntactic (MS) operations– Agreement and Clitic Movement, in particular– and their  
 542 interactions with the case system.

543 In this chapter we provide theoretical context for this analysis. Our initial goal is to  
 544 highlight some general assumptions about how the MS part of our approach operates; spe-  
 545 cific proposals are then introduced and adopted when there are substantial reasons for doing  
 546 so. In these scenarios, we will try to be explicit as to why we are adopting certain proposals  
 547 and not others. After these assumptions are outlined, the second part of the chapter looks at  
 548 the conception of *case features* that is employed in this work, and shows in a general way  
 549 and in the context of some case studies how case is involved in argument indexation.

550 We take both agreement and clitic movement to interact with *phi-features*, whether these  
 551 are packaged as agreement morphemes or clitics; as a cover term we employ  $\varphi$ -bundles to  
 552 refer to these:

553  **$\varphi$ -bundles:** Collection of *phi-features* that are possessed by DPs inherently, and which  
 554 enter into the system of argument indexation.

555 One of the larger set of assumptions that we will make, which warrants some discussion  
 556 before we get into the details, concerns the relation in the grammar between MS operations  
 557 like Agreement and clitic movement on the one hand, and the morphophonological (MP)  
 558 reflexes of these operations on the other.<sup>1</sup> The MS/MP split we have in mind is as follows:

559 **Morphosyntax (MS) of indexation:** The syntactic operations that comprise the system of  
 560  $\varphi$ -indexation in a language. We will see two types of operations like this below. One,  
 561 *Agreement*, results in a head (“probe”) bearing features of a local DP (“goal”). The  
 562 other, *Clitic-Movement*, displaces a particular type of  $\varphi$ -bundle.

563 **Morphophonology (MP) of indexation:** The realization of  $\varphi$ -bundles often shows dif-  
 564 ferences that are taken to identify a set of *clitics* that are distinct from *affixes*. These  
 565 differences might be distributional (e.g., clitics occur on a wider variety of “hosts”

<sup>1</sup>We refer to the *morphosyntax* of indexation in this way since we assume that the relevant operations are part of the (narrow) syntax, not part of PF; on the general theme of how to divide labor between these parts of the grammar see Embick (to appearb).



566 than affixes do), or more phonological in nature (the typical case involves clitics be-  
567 ing less phonologically involved with their hosts than affixes are).

568 Separating the MS and MP components of indexation in this way can be implemented in  
569 different ways. We will outline some of our assumptions concerning the basics of indexation  
570 in the next section. For the moment, the key point is how MS and MP connect with one  
571 another. As we noted in Chapter 1, in the typical way of viewing the MS/MP relation –  
572 usually tacitly assumed and sometimes explicitly noted (see e.g., Zwicky and Pullum 1983;  
573 Nevins 2011; Compton 2016 and references therein), the two are directly correlated in the  
574 way that is stated in (1):

- 575 (1) Direct MS/MP relations (to be rejected)
- 576 a. (Clitic)-movement applies to  $\varphi \Rightarrow \varphi$  is realized as a *clitic*;
  - 577 b. Agreement operation produces  $\varphi \Rightarrow \varphi$  is realized as an *affix*.

578 As we will see in chapter 4, Sorani provides striking evidence that MS operations can  
579 be ‘mismatched’ with their manner of MP realization. In particular, both MS agreement  
580 and MS clitic movement can produce  $\varphi$  bundles that are MP affixes or MP clitics, thus  
581 calling for an *indirect* MS/MP relation, in that there is no necessary correlation between  
582 MS mechanism and MP realization of the output of that mechanism. Part of our goal for  
583 this chapter, then, is to outline the theoretical assumptions that make this analytical option  
584 possible, along with a working set of assumptions about how indexation interacts with case.

585 \* \* \*

586 We outline the general framework that we assume and provide a basic outline of what  
587 we have in mind for MS operations in §2.1. A basic assumption there is that agreement and  
588 clitic movement take place in the syntax. This architectural assumption has some connec-  
589 tions with other components of our analysis: those that involve *case* (and how it is assigned)  
590 in particular. Case plays a central role in Sorani indexation, as the language displays an  
591 Aspect-determined alignment split of a type that is introduced in §2.2.

592 The alignment split in Sorani is manifested in the system of argument-indexation– i.e.,  
593 in a system of agreement morphemes and clitics– and not, like in many other languages, in  
594 overt case morphology on nouns. One of the central claims of this work is that MS opera-  
595 tions make direct reference to case features. Accordingly, §2.3 introduces our assumptions  
596 about these, and the further idea that MS operations can be specified to target DPs with  
597 particular combinations of case features. This idea, which we call *Case Targeting*, has clear  
598 affinities with the notion of *Case Discrimination* that has been discussed in the literature.

599 If even the broad outlines of this analysis are on the right track– that is, if MS agreement  
600 and clitic movement are sensitive to case features **in some form**– it follows that the case  
601 features themselves must be present and visible when these operations apply (cf. Bobaljik  
602 2008). The latter point– concerning what is visible when, is the crucial one. As we noted  
603 above, we will assume that agreement and clitic movement are syntactic, since we have no  
604 reasons within the context of the present discussion to think otherwise. However, it would

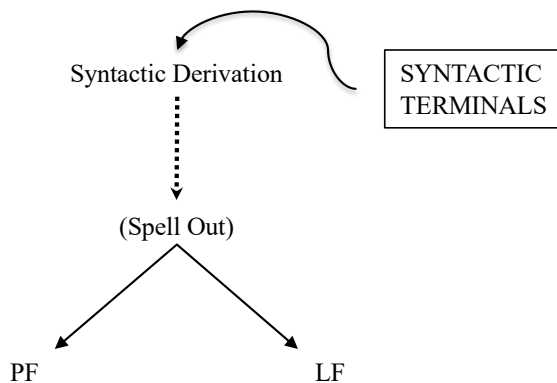
605 in principle be possible to investigate the view that all of the action takes place at PF, rather  
606 than in the syntax; as long as case features are visible to agreement and clitic movement, it  
607 would be compatible with our approach.

608 After outlining our assumptions on MS operations and case, §2.4 provides some key  
609 illustrations of how Case Targeting works, concentrating on some frequently-discussed (and  
610 thus relatively familiar) examples from Indo-Aryan. While many of the same principles  
611 involved in case-sensitive indexing behavior are also found in Sorani Kurdish, many of  
612 these surface in distinct ways in Indo-Aryan and in Iranian, due to the specific ways in  
613 which alignment splits are manifested in the relevant languages. This discussion thus paves  
614 the way for Chapters 3-5, where the focus is on Iranian, and Sorani in particular. §2.5  
615 summarizes key points.

## 616 2.1 General framework

617 We will assume a grammar of the type associated with the Minimalist Program and Dis-  
618 tributed Morphology, schematized in (2). Syntactic derivations operate on a set of *syntactic*  
619 *terminals* (also called *morphemes*) to create hierarchical structures. These syntactic objects  
620 must ultimately connect with form and (certain types of meaning); the PF (=“phonological  
621 form”) and LF (=“Logical form”) interfaces perform these roles.

622 (2) the grammar



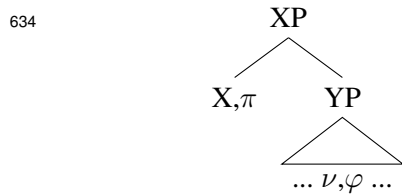
623 As noted in our introductory section, we will be assuming that the syntax contains  
624 agreement and clitic movement operations. These have the following properties:

626 **MS Agreement:** We assume that a syntactic agreement operation (that is, a form of  
627 “AGREE”) applies so that the  $\varphi$  features of an argument appear on a head that agrees with  
628 it. The view of MS Agreement that our approach requires can be formulated in a relatively  
629 generic way. A probe  $\pi$  on a head X is specified to find a nominal goal  $\nu$  in its domain;

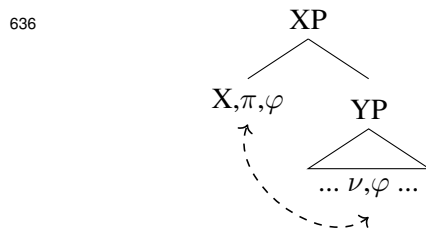
630 when an agreement relation is established between the two, features of  $\nu$ - abbreviated here  
 631 as  $\varphi$ - are transferred to the head with  $\pi$  (indicated via *dashed lines* in (3b)):

632 (3) MS Agreement, abstractly

633 a. before Agreement



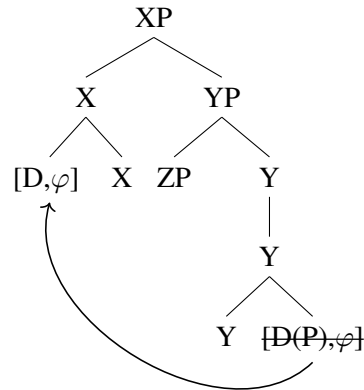
635 b. after Agreement



637 Many different approaches to the details of this operation are compatible with the role that  
 638 it plays in our analysis. The primary addition that we make to this basic picture is that in  
 639 our approach, probes are specified to target specific values of case features. We will discuss  
 640 this view below in 2.3.2, after discussing our view of case.

641 **MS clitic movement:** The movement operation that we will employ is one that is often  
 642 called *clitic movement*. It applies to D(P) pronouns of a particular type- i.e. those that  
 643 are represented as clitics, unlike e.g. full pronouns- and moves them to a higher head.  
 644 Schematically, this is shown in (4), with **solid lines** used to indicate **movement**, where by  
 645 assumption the moving clitic is both minimal (a head) and maximal (a phrase) in the sense  
 646 of Chomsky (1994):

647 (4) Clitic movement, abstractly



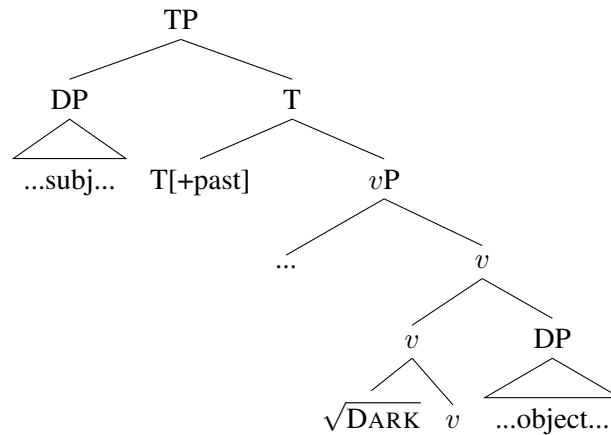
649 This operation could be treated in different ways that are compatible with what we will  
 650 need it for. As with agreement, though, this process needs to be able to target arguments  
 651 with specific case features. A second point is that throughout the Sorani varieties we have  
 652 investigated, we do not find what is referred to as *clitic doubling*. Instead, moved clitics  
 653 occur in complementary distribution with overt coindexed arguments. We will develop this  
 654 idea at various points in the discussion to come.

655 We noted earlier that one of the key questions addressed in this book concerns how *di-*  
 656 *rect* the connections between MS operations and their MP correlates are. On this theme, an  
 657 important assumption about the grammar in (2) is that the morphemes (i.e. the terminals of  
 658 syntactic derivations) are *abstract*: that is, they consist of bundles of features that are inter-  
 659 preted contextually at the PF and LF interfaces (cf. Embick to appear-a). So, for example,  
 660 the syntactic structure of a clause like *The clouds darkened the sky* would be as in (5) (we  
 661 leave out some additional heads– e.g. Voice– as well as the contents of the DP in order to  
 662 focus on the verb and Tense):<sup>2</sup>

663 (5) structure

<sup>2</sup>We assume that in addition to functional heads functional heads like *v*, T, D, C, etc. the grammar contains Roots like  $\sqrt{\text{DARK}}$ ,  $\sqrt{\text{CAT}}$ ,  $\sqrt{\text{BALL}}$ , and so on. For background and motivation of this view see Embick (2021); Embick (2015) provides an introduction.

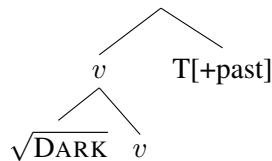
664



665 Affixation of Tense to the verb produces the following representation:

666 (6) verb with Tense affixed

667



668 The emphasis on the “abstract” nature of morphemes above can be seen in the fact that nei-  
 669 ther  $v$  nor the  $T[+past]$  morpheme have a phonological representation.<sup>3</sup> An important part  
 670 of what happens to such morphemes at PF involves their phonological realization. Specifi-  
 671 cally, it will be assumed that an operation called *Vocabulary Insertion* provides functional  
 672 morphemes with phonological content. The *Vocabulary* consists of individual *Vocabulary*  
 673 *Items* (VIs) that pair a phonological representation with a set of syntactic features. In the  
 674 example in (6), one of these Vocabulary Items realizes the  $v$  morpheme as *-en*; another  
 675 realizes  $T[+past]$  as *-ed*:

676 (7) Some Vocabulary Items

677 a.  $v \leftrightarrow -en/\{\sqrt{\text{DARK}}, \sqrt{\text{BLACK}}, \sqrt{\text{RED}}, \dots\}$ \_\_\_678 b.  $T[+past] \leftrightarrow -ed$ 

679 The Vocabulary Insertion process makes reference both to features that are on the morpheme  
 680 to be realized, and to elements in the local context of that morpheme. This latter point is  
 681 clear in the VI in (7a), which shows the verbalizer  $v$  realized as *-en* when it is local to  
 682  $\sqrt{\text{DARK}}$  and certain other Roots. This same effect, called *contextual allomorphy*, is found  
 683 with  $T[+past]$  as well. While  $T[+past]$  defaults to *-ed* in English, with other verbs it is  
 684 realized as *-t* or as  $\emptyset$  (no overt realization), as shown in (8):

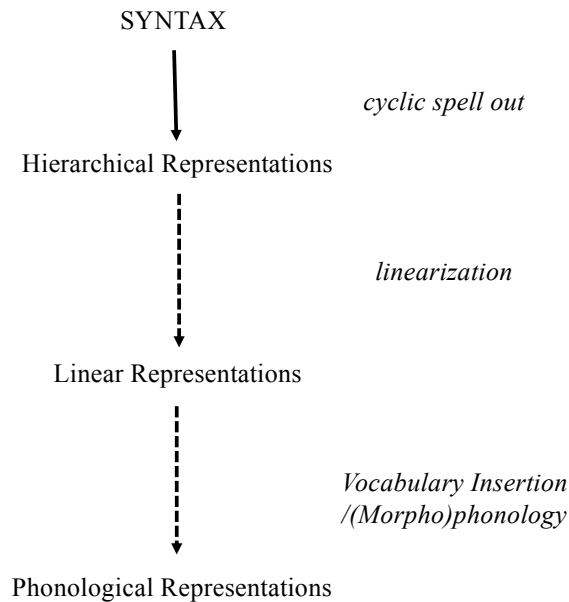
<sup>3</sup>Whether Roots like  $\sqrt{\text{DARK}}$  have phonology “inherently” is contentious; we put this question to the side.

- 685 (8) Vocabulary Items for English T[+past]  
 686 a. T[+past]  $\leftrightarrow$  -t/{ $\sqrt{\text{BEND}}$ ,  $\sqrt{\text{LEAVE}}$ ,...}\_  
 687 b. T[+past]  $\leftrightarrow$  - $\emptyset$ /{ $\sqrt{\text{HIT}}$ ,  $\sqrt{\text{QUIT}}$ ,...}\_  
 688 c. T[+past]  $\leftrightarrow$  -ed

689 In addition to encoding the contextual conditions on the application of the first two VIs,  
 690 (8) illustrates another important aspect of the approach. The VIs in (8) are competing for  
 691 application to the given morpheme, with the winner being the one that is the most specific  
 692 that can apply. So, for instance, when  $\sqrt{\text{LEAVE}}$  is present, both the first and third VIs  
 693 could in principle apply, since they both have feature specifications compatible with the  
 694 morpheme to be realized. However, the first VI, with the contextual condition referring to  
 695  $\sqrt{\text{LEAVE}}$ , is more specific than the third. It therefore wins the competition, with the result  
 696 that -t is inserted, not -ed.

697 The idea that morphemes have their form determined at PF is part of a larger conception  
 698 according to which this interface is internally complex, in a way that is schematized in (9):

- 699 (9) PF branch with stages



700

701 As discussed earlier, one of the theoretical implications of our analysis of Sorani is that  
 702 MS/MP relations may sometimes be indirect in the domain of  $\varphi$  indexation, in contrast  
 703 to the expectations produced by the ‘direct’ view in (1) above. The view of PF that is  
 704 embodied in (2) and (9) plays a crucial role in understanding why such indirect connections

705 might be found. This is because PF is able to perform various operations on the output  
706 of the syntactic derivation. As such, there are circumstances under which the syntax does  
707 not fully determine the morphophonological behavior of an item it has created. Somewhat  
708 abstractly, the idea is that rather than being determined “at the beginning”– that is, by virtue  
709 of being involved in MS agreement or MS clitic movement– the ultimate MP behavior of  
710 a  $\varphi$  marker is determined in a derivation that takes into account both the syntax and what  
711 happens to that element at different stages of PF.

## 712 2.2 Alignment: An introduction

713 The (informal) notion of *alignment* refers to the ways in which– to a first approximation–  
714 languages group arguments in a clause into morphosyntactically-defined classes. The most  
715 obvious way of detecting the classes in an alignment system is with **overt case marking**,  
716 where the morphology on arguments themselves shows how they are grouped. A second  
717 way, which is at the heart of the present work, in terms of *indexation behavior*: classes  
718 are detectable in terms of how arguments participate in the agreement system (and in Ira-  
719 nian, in terms of clitic movement).<sup>4</sup> We will illustrate alignment patterns involving both  
720 case-marking and indexation below, working forward through various details to an initial  
721 sampling of the Sorani Kurdish data that is the main topic of this book.

722 As an initial step, it is useful to start with some shorthand that is adapted from the  
723 typological literature (e.g., Dixon 1994), and which has become a standard way of present-  
724 ing alignment systems. This notation recognizes three categories: A, S, and O, defined as  
725 follows:

- 726 (10) S(ubject): Subject of an intransitive verb.  
727       A(gent): Subject of a transitive verb.  
728       O(bject): Object of a transitive verb.

729 We will conform with the categories in (10) in most of this introductory section, to make  
730 our outline fit with the existing literature. In later parts of the book we will employ other  
731 terms; in particular, ‘Subject of a transitive’ for what is given as A here; and DO for what  
732 is given as O.

733 As we noted above, the key question at hand is which arguments are grouped together  
734 (*aligned*) in detectable ways. The most familiar distinction in the literature on alignment  
735 starts with the groupings that are illustrated in (11). Note that this classification employs  
736 case labels (‘Nominative’, ‘Accusative’, ‘Ergative’, ‘Absolutive’) whose status in our theory  
737 is addressed in the next section.

- 738 (11) Nom/Acc and Erg/Abs schematized

---

<sup>4</sup>An ongoing discussion concerns the nature of what has been called *syntactic ergativity* as well; see Bittner and Hale 1996; Aldridge 2004; Coon et al. 2014; Deal 2016; Polinsky 2017 for discussion.

Nominative/Accusative    Ergative/Absolutive



739

740        The basic difference between the two systems concerns which argument ‘stands out’  
 741 from the others: in Nom/Acc systems it is the Accusative Object that is marked differently  
 742 from the Nominative Subject and Agent; in Erg/Abs, the Ergative Agent behaves differently  
 743 from Absolutive Subjects and Objects.

744        To illustrate, in German the S of intransitive (12a) bears Nominative case, as does the  
 745 A of transitive (12b). The O of transitive (12b) stands out, in taking Accusative, as seen on  
 746 the article:

- 747 (12) a. Der        Spieler hat        gelacht.  
           the.NOM player have.3S laugh.PST.PTCP  
 748        ‘The player laughed.’  
 749        b. Der        Spieler hat        den        Fußball gesehen.  
           the.NOM player have.3S the.ACC football see.PST.PTCP  
 750        ‘The player saw the football.’

751 The language Dyirbal, on the other hand, shows Erg/Abs alignment. The S of intransitive  
 752 (13a) is Absolutive, as is the O of transitive (13b); the argument that stands out is the A of  
 753 the transitive, which is marked with Ergative case:

- 754 (13) Dyirbal (Dixon 1994:10)  
 755        a. ŋuma        banaga-n<sup>y</sup>u.  
           father-ABS return-NON.FUT  
 756        ‘Father returned.’  
 757        b. ŋuma        yabu-ŋgu        bura-n.  
           father-ABS mother-ERG see-NON.FUT  
 758        ‘Mother saw father.’

759        While Dyirbal and other languages reveal their indexation systems through overt case-  
 760 marking, this is not the only way in which alignment is manifested cross-linguistically. As  
 761 we noted above, many languages reveal alignment patterns in their system of  $\varphi$ -indexation–  
 762 understood as earlier to include MS Agreement and Clitic Movement. For example, the  
 763 languages of the Mayan family mark the grammatical relations on the predicate in this way.  
 764 In the Mayanist literature, the term *Set A* is used for  $\varphi$  markers that co-index transitive



765 subjects and possessives, whereas *Set B* markers co-index transitive objects and intransitive  
766 subjects. Accordingly, both the intransitive subject in (14a) and the transitive object in (14b)  
767 are marked with Set B. On the other hand, the transitive subject in (14b) is indexed by the  
768 Set A marker:

769 (14) K'ichean (Coon 2013:4,(7))

- 770 a. x-**at**-war-ik.  
COM-B2-sleep-SUF  
771 'You slept.'
- 772 b. x-**at**-u-chay-oh.  
COM-B2-A3-hit-SUF  
773 'He hit you.'

774 This indexation pattern is thus like the Dyirbal one, in that it groups the S and O together,  
775 with the transitive A behaving differently.<sup>5</sup>

776 As part of an introduction to the alignment patterns of Sorani Kurdish, two other obser-  
777 vations concerning alignment systems are worthy of attention.

778 **Alignment splits.** The first concerns the fact that many languages display a mix of prop-  
779 erties; what is referred to as an *alignment split*, with part of the language displaying Nom-  
780 inative/Accusative alignment, and another part Ergative/Absolutive. The factors that con-  
781 dition such splits include properties of the arguments in the clause (e.g., person features),  
782 mood, aspect, and other factors (see e.g., Woolford 2017 for an overview). For example,  
783 K'ichean shows an aspect-based split: an ergative-absolutive pattern is found in the perfect-  
784 tive or completive aspects, while nonergative patterns are found in (some) nonperfective or  
785 noncompletive aspects (Coon 2013:58).

786 The Sorani Kurdish varieties that we examine in this book also show an alignment  
787 split that is conditioned by aspect. In Standard Sorani Kurdish, for example, the imper-  
788 fective aspect is Nominative/Accusative, while the perfective is not; in terms of (11) it is  
789 Ergative/Absolutive, but we will introduce different terms for referring to it below. Stan-  
790 dard Sorani is similar to the Mayan languages in cross-referencing arguments not via overt  
791 case marking on noun phrases, but via head-marking on the verb and also mobile morpho-  
792 phonological clitics.

793 The alignment split and its reflexes in the indexation system are illustrated in (15).

794 (15) Sorani Kurdish

- 795 a. imperfective
- 796 i. (ême) de-kok-în  
1 PL.pro IND-cough.PRS-1 PL  
797 'We cough.'

---

<sup>5</sup>We put to the side the question of how possessor marking fits into the basic typology schematized in (11).

- 798           ii. (ême) **de=yan**       bîn-în  
               1 PL.pro IND=3 PL.CL see.PRS-1 PL  
 799           ‘We see them.’
- 800       b. perfective
- 801           i. (ême) kokî-[î]n  
               1 PL.pro cough.PST-1 PL  
 802           ‘We coughed.’
- 803           ii. (ême) **de=man**       bînî-n  
               1 PL.pro PROG=1 PL.CL see.PST-PL  
 804           ‘We were seeing them.’

805       In the imperfectives in (15a), the intransitive S is indexed by italicized agreement on the  
 806 verb, as is the A of the transitive; the O argument in the latter is indexed by the boldfaced  
 807 clitic. This is typical Nom/Acc behavior. In the perfectives in (15b), though, the alignment  
 808 is different. Intransitives show agreement with the S, as they do in the imperfective; but in  
 809 transitives, the indexation of arguments basically flips what is seen in the imperfective, to  
 810 produce Erg/Abs alignment. In particular, the A is indexed by the boldfaced clitic, while  
 811 the O is indexed by italicized agreement on the verb.

812       As we will see in the core chapters of this book, analyzing this and related effects re-  
 813 quires a distinction between MS operations and their MP reflexes, in the way that is outlined  
 814 at the beginning of this chapter. For now, these examples suffice to show how one language  
 815 may show different kinds of alignment, in a way that is grammatically conditioned.

816       **Beyond Nom/Acc and Erg/Abs.** The second facet of alignment systems to be empha-  
 817 sized is that while (11) provides a familiar way of introducing alignment, it does not cover  
 818 the full variety of alignment types seen cross-linguistically.

819       One type that is of particular relevance in this work is an alignment pattern in which  
 820 both A and O are Oblique– what could be thought of as Ergative/Accusative, bearing in  
 821 mind that we will replace these labels with something more precise below. For example,  
 822 Garmiani Kurdish, which we analyze in later chapters, shows this type of alignment in  
 823 perfective clauses. Comparing (16b) with the Standard Sorani transitive in (15b) reveals  
 824 that in Garmiani, both the A and the O are indexed by clitics (the imperfectives in Garmiani  
 825 behave the same as their Standard Sorani counterparts in (15a)):

- 826       (16) Garmiani Kurdish
- 827           a. (ême) **de=yan**       bîn-în  
               1 PL.pro IND=3 PL.CL see.PRS-1 PL  
 828           ‘We see them.’
- 829           b. (ême) **de=yan=man**       bînî  
               1 PL.pro PROG=3 PL.CL=1 PL.CL see.PST  
 830           ‘We were seeing them.’

831 As even this brief comparison with Garmiani makes clear, the analysis of alignment  
832 systems must operate at a finer grain than that provided by (11). Our take on this is that  
833 patterns of indexation result from MS operations (agreement, clitic movement) being driven  
834 by case features; not by labels like ‘Nominative’, ‘Ergative’, etc., which instead are simply  
835 shorthand ways of referring to specific combinations of features that do the important work  
836 in the grammar. We turn to this particular set of assumptions concerning case next.

### 837 2.3 Case and *Case Targeting*

838 A central line of argument in this work is that the analysis of Sorani indexation patterns  
839 requires a particular view of case in the grammar: one in which case features are targeted  
840 by the operations (Agreement, clitic-movement) that comprise the indexation system. In  
841 this section we outline the assumptions about case that play a role in our implementation of  
842 this idea.

843 An important initial point is to clarify the scope of our claims; we are going to make  
844 assumptions about the role that case features play in derivations, but will remain neutral  
845 with respect to how such features are assigned; that is:

- 846 • On one hand, our approach requires that case labels (‘Nominative’, ‘Ergative’, etc.)  
847 be short hand for bundles of features; but
- 848 • at the same time, we do not commit to any particular view (procedure) that specifies  
849 how these case features are assigned to nominals.

850 What we mean by this is the following. In ways that we will begin to illustrate im-  
851 mediately below, the view we advance is that indexation operations can be sensitive to  
852 (=target) specific case features. Moreover, it is important for us that cases be treated in  
853 a ‘fine-grained’ way, i.e. as consisting of features that are more abstract than labels like  
854 ‘Nominative’ etc.. But there is nothing in our approach as developed to this point that re-  
855 quires a specific view of how these features are assigned. As is well-known, there is a large  
856 and active literature debating the mechanics of case-assignment, often opposing *Case-by-*  
857 *functional heads* (Chomsky 2000, 2001; Legate 2008; Woolford 2006b) and *Dependent-*  
858 *Case* (Marantz 1991; McFadden 2004; Baker 2015) views (for overviews, see e.g., Peset-  
859 sky and Torrego 2011; Andrews 2017; Baker and Bobaljik 2017). It is possible that some  
860 aspects of our analyses in the pages to come might be brought to bear on questions of this  
861 type– in particular, some of the phenomena studied in Chapter 5 have this property, and are  
862 flagged as such. In Chapter 6 we will comment further on this opposition, and suggest that  
863 even within one language– which is to say, Sorani– the same case features may be assigned  
864 in more than one way.

865 For these reasons, we will for the most part abstract away from the details of case  
866 assignment in the pages to come. It suffices for our analysis of Sorani to demonstrate why a  
867 particular grain of case features is needed, and how this approach to features interacts with  
868 indexation operations to produce the surface manifestation of an alignment split.

869 **2.3.1 Case features**

870 As we noted immediately above, an important aspect of our approach is that familiar names  
871 for cases ('Nominative', 'Accusative', etc.) are shorthand labels for feature combinations.

872 The idea that cases are internally complex in this way plays an important role in theories  
873 of how case is realized in the morphology; most typically, in discussions of syncretism. For  
874 example, the line of research exemplified by Halle (1997), Halle and Vaux (1998), Calabrese  
875 (2008), and related work makes this kind of assumption. To take a concrete example, Halle  
876 and Vaux (1998) hypothesize that cases are defined by the four features shown in (17):

877 (17) Case features from Halle and Vaux (1998)

	Nom	Acc	Gen	Dat	Loc	Inst	Abl	Erg
oblique	-	-	+	+	+	+	+	-
878 structural	+	+	+	+	-	-	-	+
superior	+	-	-	+	-	+	+	+
free	+	-	+	+	-	-	+	-

879 The idea at play in (17) is that patterns of syncretism have the potential to reveal natural  
880 classes which are then defined in terms of feature decompositions.

881 The question of what to make of the feature labels *oblique*, *structural*, *superior*, and *free*  
882 is a complex one, particularly as it concerns the syntax. The view associated with (17) takes  
883 the features to be somewhat abstract and encapsulated— posited to account for syncretisms—  
884 with the idea being that later stages of research will provide linking hypotheses between the  
885 feature system motivated by consideration of form, and one that is motivated on a syntactic  
886 basis.<sup>6</sup>

887 Our approach to indexation implements the idea that MS operations are sensitive to case  
888 features, and as such has much in common with research programs investigating systems  
889 like (17). For example, for Standard Sorani Kurdish, our analysis in Chapter 4 posits four  
890 cases, which are derived from two features that we all [ $\pm$ subject] and [ $\pm$ oblique]. These  
891 combine to form the four cases shown in (18):

892 (18) Case features: Standard Sorani Kurdish

---

<sup>6</sup>For example, the following passage from Halle and Vaux give some indication of what they have in mind with respect to the features in (17):

The feature specification [-oblique] is assigned to nominals that are arguments of the verb; [+oblique] is assigned to nominals that are not arguments of the verb. The feature [-structural] is assigned to nominals on non-structural, semantic grounds; [+structural] is assigned to nominals on the basis of their position in syntactic structure, exclusively. The feature [-superior] is assigned to nominals in governed positions in the syntactic structure; [+superior] is assigned to nominals in non-governed positions. [-free] is assigned to nominals with a consistent role in argument structure; [+free] is assigned to nominals whose role in argument structure varies. (1998:225)

The variety of notions that are employed here (semantic, argument structure, government) highlights the complexity of the task of linking this kind of approach with a syntactic theory of case.

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
893 <b>subj(ect)</b>	+	+	-	-
<b>obl(ique)</b>	-	+	+	-

894 Our argument is that a four-way distinction of the type in (18) is required to analyze the  
 895 patterns of indexation seen in Sorani. That is, arguments in Sorani show four distinct types  
 896 of indexation behavior, and these are produced by MS operations that make reference to the  
 897 four cases in (18).

898 As we will see below, features like [ $\pm$ subj] and [ $\pm$ obl] are familiar in the sense that  
 899 they point to notions that are employed in standard discussions of case.<sup>7</sup> However, since we  
 900 do not commit to a view on how the assignment process works, they must be understood  
 901 relatively abstractly: which is to say, what is important for us in this work is how case  
 902 features produce **distinctions** that are referred to in the indexation system, not the features  
 903 themselves. For this reason, we do not expect that some other language that is described as  
 904 having Nominative or Accusative or Ergative case should necessarily employ the features  
 905 in (18).<sup>8</sup>

906 As we noted above, one of the pressing questions in theories that look at both the syntax  
 907 and morphology of case concerns how to relate the syntactic and morphological notions  
 908 of case. Are they distinct, so that an argument labelled with something like ‘Ergative’ in  
 909 the syntax is then provided with a featural decomposition at PF? Or are the syntactic and  
 910 morphological features systems one and the same? The analyses that we develop in this  
 911 book instantiate the latter view: syntactic case features must be ‘decomposed’– i.e. of the  
 912 grain in (18)– because of how MS operations are driven– and this same decomposition plays  
 913 a role in the morphological realization of  $\varphi$ -indexers.

914 We note by way of conclusion that there is a sense in which, viewed against recent  
 915 analyses of case, our approach appears to be putting the type of decomposition that has  
 916 recently been motivated mostly in morphology into the syntax. In the broader historical  
 917 context, though, it is a return to the original insights behind decomposing case labels into  
 918 primitives. Jakobson (1936/1984) is the first to do this, offering an analysis of the Russian  
 919 case system that employs three features that together make up the case labels like ‘Nomi-  
 920 native’ ‘Accusative’, and so on. He presents this analysis as *semantic*, but (with the benefit  
 921 of hindsight) it is at least partially syntactic in orientation when viewed from the perspec-  
 922 tive of current theories (something that Halle knew, and which is reflected in (17); see Fn.  
 923 6). In later work, Jakobson (1958/1984) turns to the kind of morphologically-oriented de-  
 924 composition that is typically associated with (17), and asks to what extent the three feature  
 925 ‘semantic’ system provides a basis for the morphological patterns of syncretism that are  
 926 found in Russian.<sup>9</sup>

<sup>7</sup>This can be seen in the fact that certain systems of such features resemble (at least in name) those that we employ; e.g. Alexiadou and Müller (2008).

<sup>8</sup>For that matter, beyond how to connect our approach to case assignment, the question of the inventory of possible case features is a further possible line of investigation, as is the question of how to relate syntactic case decomposition to markedness and related notions. See Chapter 6 for some comments.

<sup>9</sup>The short answer is that it does not, such that additional features are required; see Chvany (1986). For a recent take on the implications of this argument, see Embick and Marantz (in prep.)

927 In summary form, the approach that we adopt here is a syntactic implementation that  
928 connects closely to Jakobson’s original insights: it holds that case features are decomposed,  
929 and that the decomposed syntactic features are visible to the morphology as well.<sup>10</sup> On this  
930 last point, it is important to note that the syntactic and morphological patterns produced by  
931 reference to case features may sometimes be misaligned, as will be seen in section 4 below.

### 932 **2.3.2 Case discrimination ⇒ Case targeting**

933 The next theoretical step to be taken concerns how Case features interact with indexation  
934 operations. The connection between case and agreement has been long noted. While some  
935 interactions appear to involve the overtness of case morphology (in some languages, e.g.  
936 Hindi, Turkish, Tsez, it appears that overtly case-marked nominals do not participate in  
937 agreement relations), the more general observation is that agreement appears to be sensi-  
938 tive to the particular abstract cases that nominals bear. For example, in many languages,  
939 nominals bearing oblique cases are invisible for agreement purposes.

940 The literature contains some different proposals that implement case-sensitivity. [Chom-  
941 sky \(2000\)](#) proposes that for a nominal to be available for agreement, it needs to have an un-  
942 interpretable case feature that has not been valued. This kind of restriction is intended (given  
943 certain other assumptions) to rule out agreement with nominals that are lexically/inherently  
944 case-marked (e.g. Icelandic quirky-dative subjects, or Hindi ergative subjects). Another per-  
945 spective on sensitivity is provided by [Bobaljik \(2008\)](#), who argues that all forms of morpho-  
946 logical case are assigned before agreement takes place. This approach employs something  
947 that is later called *Case Discrimination* in [Preminger \(2014\)](#), where the targets of agreement  
948 are subject to conditions on *Accessibility*. In particular, an agreeing element will target the  
949 most local (=structurally highest) Accessible nominal in its domain, as stated in (19):

950 (19) The controller of agreement on the finite verbal complex (Infl+V) is the highest  
951 accessible NP in the domain of Infl+V. ([Bobaljik 2008:296,\(3\)](#))

952 The notion of Accessibility is in turn defined in terms of (morphological) case, in a way  
953 that is adapted from the crosslinguistic typology of agreement targets originally due to  
954 [Moravcsik 1974, 1978](#). It involves the hierarchy in (20):

955 (20) Implicational hierarchy

956 Unmarked case > Dependent case > Lexical/Oblique case

957 The idea is that agreement may be specified to ignore certain types of case-marked argu-  
958 ments, but can target arguments that are lower (i.e. to the left) in terms of (20).<sup>11</sup> So, for  
959 example, if the verb in some language (e.g. Icelandic) fails to agree with Dative subjects,

---

<sup>10</sup>On this way of treating case, see [Neidle \(1982a,b\)](#) who argues that Jakobson’s (1936) features should be treated as syntactic, and employs the important assumption that morphological case forms can be underspecified with respect to these features.

<sup>11</sup>The assumption is that case-marked arguments are indeed DPs, and not PPs. See [Řezač \(2008\)](#); [Polinsky \(2016\)](#); [Baker \(2015\)](#) for examination of various cases (e.g., ergative, dative), which are shown to correspond to DPs in some instances, and to PPs with a silent P in some other instances.

960 and instead agrees with Nominative objects, this is statable in terms of (20): arguments with  
961 unmarked case are accessible, while more marked cases in the hierarchy are not. What this  
962 means is that the structurally highest argument in DAT-NOM clauses, the Dative subject,  
963 is not accessible, and is thus ignored for agreement, which then finds the accessible Nom-  
964 inative object. For Bobaljik the important thing is that (in contrast to certain alternatives)  
965 accessibility is defined in terms of case, not in terms of grammatical relations like Subject,  
966 Object, and so on.<sup>12</sup>

967 Preminger (2014) incorporates Case Discrimination into his treatment of agreement,  
968 which differs from Bobaljik's in taking the case/agreement action to be in the syntax, not in  
969 the morphology. In line with other aspects of his approach, Case Discrimination functions as  
970 a kind of 'go/no-go' for establishing agreement relations: a probe finds the closest argument  
971 bearing valued features of a particular type, and then checks that argument's case properties.  
972 If it is acceptable with respect to Case Discrimination, agreement results; if it is not, then  
973 the search is terminated.<sup>13</sup>

974 We will make crucial use of the idea that MS agreement is case-sensitive in the way that  
975 Preminger discusses. On our approach, however, differs in terms of how this sensitivity may  
976 be manifested. Case Discrimination effectively makes a particular type of argument inert for  
977 certain operations. We propose that instead of being specified negatively to ignore certain  
978 arguments, operations can be *Case Targeting*, so that they seek the most local argument  
979 with particular case feature.<sup>14</sup>

980 **Case Targeting:** Probe X seeks a Goal with a specific case feature specification (i.e. at  
981 least one case feature and possibly more). A single head may probe for arguments  
982 with different cases and perform different operations (agreement, or clitic movement)  
983 on them.

984 The first clause is the basic one and will be compared with Case Discrimination immedi-  
985 ately below. The second clause specifies that it is not just that a particular head does not  
986 always simply probe for a specific case; rather, a single head may specify particular cases  
987 for particular operations, in a way that is illustrated further along in this section.

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<sup>12</sup>See Deal (2017b), who argues that ergative extraction restrictions (e.g. the ban on  $\bar{A}$ -extraction of ergative subjects) in many ergative systems also arise from Case Discrimination.

<sup>13</sup>The appearance of agreement with a lower argument in cases where the search terminates is attributed to the morphology, which interprets a probe that lacks person and number values as identical to successful agreement with a 3rd person singular argument.

<sup>14</sup>A consequence of stating selectivity positively, as in our Case Targeting, is that probes do not stop searching when they encounter an argument with incompatible features. Instead, they continue to probe. On this latter point, we do not have evidence that failed probing produces default morphology. This means that probes on our view are persistent— they apply when they can, but there are no visible consequences of their having failed to find an appropriately specified goal. See Chapter 6 for some additional discussion.

For an analogue to this kind of targeting in another domain see the literature on PCC (Anagnostopoulou 2006; Preminger 2014), where probes are specified to positively target certain person features (and ignore others). Our approach has clear affinities to Deal's (2021) interaction/satisfaction model of Agree. In Deal's system, a probe's particular interaction condition specifies that a probe interacts with the  $\phi$ -features of the goals in its agreement domain. The satisfaction condition adds a restriction that the probe will halt the search when it encounters a goal with the satisfaction feature the probe is specified with.

988 On the first of these points, how different Case Discrimination and Case Targeting are  
989 depends to a large extent on how case features are represented. If they are binary, as they  
990 are in 2.3.1, then there are certain circumstances under which Discrimination and Targeting  
991 can do essentially the same things. This is especially clear in simple cases when only one  
992 feature is involved, since ignoring a positive feature value [+x] and targeting the same neg-  
993 ative feature value [-x] (and vice versa) are indistinguishable. Suppose, for example, that a  
994 probe X in some language ignores Oblique arguments (we will present and analyze actual  
995 examples of this in the next section). An approach with a (negatively) Discriminating probe  
996 would account for this as follows:

997 (21) X targets the closest DP, ignoring DP[+obl]

998 With binary features, a Case Targeting account can be framed by simply changing the value  
999 of the feature, i.e.:

1000 (22) X targets the closest [-obl] DP.

1001 While in examples of this type the orientation (ignoring versus specifically seeking)  
1002 does not appear to be important, this might not always be the case. For example, in Chapter 4  
1003 we will analyze part of the Sorani indexing system with a Tense probe that targets Objective  
1004 [-subj,-obl] arguments (recall (18) above) for clitic movement; that is:

1005 (23) T clitic moves [-subj,-obl] pronominals.

1006 A Case Targeting perspective allows for the relevant type of argument to be identified di-  
1007 rectly (even if the features referred to are negative). Producing the same results with Dis-  
1008 crimination is not so straightforward. The T probe needs to be specified to ignore the other  
1009 three cases in (18); with that specification, any DP that has a positive + value for either  
1010 [ $\pm$ subj] or [ $\pm$ obl]. This can be encoded disjunctively, but doing so would be going out of  
1011 the way to miss a generalization, viz. that is, it is a specific combination of features that the  
1012 T probe is positively specified for.

1013 To drive home this point, a further facet of our analysis of Sorani is that T is specified to  
1014 Agree with Nominative [+subj,-obl] arguments. Again, this is (obviously) something that  
1015 Targeting states directly:

1016 (24) T agrees with [+subj,-obl] arguments.

1017 Stated negatively, T would ignore (for agreement) arguments that bear any other combi-  
1018 nation of values; i.e., [-subj,-obl], [+subj,+obl], [-subj,-obl], everything but Nominative.  
1019 Rather than dwelling on what it might mean to ignore unnatural classes of the type just  
1020 identified, we will encode this kind of effect directly, with Targeting.

1021 The considerations immediately above are meant as suggestions, and (we believe) pro-  
1022 vide a motivation for employing Case Targeting. We do not wish to imply that our conclu-  
1023 sions suggest a definitive conclusion about Targeting being superior to Discrimination in all  
1024 cases. It is not our intention to engage in this kind of comparison; in part, this is because the



1025 choice between these two will depend to some degree on the details of how case features  
1026 are represented.<sup>15</sup>

## 1027 **2.4 Case and indexation: Initial illustrations from Indo-Aryan**

1028 One of the central theses of this work is that indexation operations are tied to case features  
1029 in the way that is encapsulated in *Case Targeting* in the last section. To provide a foundation  
1030 for the central chapters of the book, we will look now at case/agreement interactions in four  
1031 different Indo-Aryan languages. This choice of case-studies is motivated by the role that  
1032 case/agreement interactions in these languages has played in arguments for case-sensitive  
1033 operations (recall 2.3.2 above). In addition, we are able to illustrate the further point that MS  
1034 operations can target case features in a way that is distinct from how features are referred  
1035 to in MP realization, resulting in certain types of MS/MP mismatches.<sup>16</sup>

1036 First, we will look at the case/agreement system of Hindi, which will be used to illus-  
1037 trate three basic points. The first is the way in which an MS operation can target a specific  
1038 case feature— i.e., the basic point of Case Targeting. Second, targeted agreement is subject  
1039 to locality: it finds the highest argument with the desired case feature. Finally, Hindi shows  
1040 a further effect of note. While Hindi Ergative and Dative case behave the same way with  
1041 respect to Agreement (they are not targeted by it), they nevertheless differ in their mor-  
1042 phological realization. This observation highlights the grain of the analysis, which involves  
1043 Cases analyzed as complexes of features along the lines of §2.3.1: this decomposition al-  
1044 lows for Cases that share a feature to behave the same way in the syntax, but nevertheless  
1045 be distinguished in the morphology.

1046 Next, a look at Nepali provides an interesting contrast with Hindi, since both Nomi-  
1047 native and Ergative subjects are agreed with in this language. Like Hindi, Nepali provides

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<sup>15</sup>For example, if case features are treated as unary, and not binary, then things change. The simple illus-  
tration in the text shows Discrimination ignoring Case 1 [+x] and Targeting seeking Case 2 [-x]. Suppose with  
unary features that:

- (i) Case 1 = [x]  
Case 2 = [x,y]  
Case 3 = [x,y,z]

A few examples— Suppose there is an operation that applies to Case 1 but not Cases 2 or 3. A negative  
restriction would encode this as “ignore [y]”; a positive one, specified to target [x], cannot achieve this result:  
since Cases 2 and 3 contain [x], they would be included along with Case 1. For singling out Case 2 to the  
exclusion of Cases 1 and 3, “ignore [y]” will incorrectly apply to Case 3 in addition to Case 2. A positive  
statement, “target [x,y]”, also groups Case 3 with Case 2. A conjoined statement like “target [x,y] and ignore  
[z]” is required to fix this problem. Finally, for picking out Case 3, a negative restriction will not work. A  
positive restriction like “target [x,y,z]” will, though (as long as there are no further cases).

Note that these illustrations assume that there are phenomena that require e.g. targeting Case 2 to the ex-  
clusion of Cases 1 and 3. It would be possible to argue that this kind of ‘intermediate’ targeting should be  
impossible. The hierarchy in (20) encodes this kind of effect, since it makes it impossible for an operation to  
apply to Dependent Cases while excluding unmarked case. For further discussion of related points concerning  
case containment see Chapter 6.

<sup>16</sup>On both of these points see in particular Bobaljik (2017) and references cited there.

1048 a clear indication of why both reference to case features and a locality condition identi-  
1049 fying the closest relevant argument play a role in the analysis of case-sensitive indexation  
1050 patterns. It also illustrates a point about MS operations and morphological form that is the  
1051 inverse of what is seen in Hindi: in particular, an example of how two cases that are treated  
1052 differently in the indexation system (Ergative and Instrumental) are realized identically in  
1053 the morphology.

1054 Our third case study is based on Gujarati, which provides another interesting point of  
1055 contrast with Hindi; this time with respect to how object-marking works. In Hindi, Direct  
1056 Object DPs showing Differential Object Marking (DOM) are affixed with *-ko*, which is  
1057 also found on Datives. Such arguments are not targets of agreement. In Gujarati, DOM and  
1058 Dative are also identical in form. Unlike in Hindi though, DOs with DOM are targets of  
1059 agreement; identically marked ‘true’ Datives are not. This pattern raises the question of  
1060 how ‘deep’ the identity between DOM and Dative is, since arguments that are realized with  
1061 the same morphology behave differently with respect to indexation.

1062 Finally, we take a brief look at the complex indexation patterns of Maithili. The point  
1063 here is to suggest that an argument’s case features may be transmitted to a probe that agrees  
1064 with it, in a way that is detectable in the morphology: an idea that will play a role in our  
1065 analysis of Sorani.

#### 1066 **2.4.1 Hindi: Agreement targeting a specific feature**

1067 The agreement system of Hindi (Indo-Aryan) has attracted a great deal of theoretical at-  
1068 tention (e.g., Mahajan 1989; Butt 1993; Bhatt 2005; Bobaljik 2008; Keine 2016) due to  
1069 the ways in which its case-marking and agreement interact. As typically described, Hindi  
1070 agreement is sensitive to whether or not there is **overt** case-marking on a potential tar-  
1071 get of agreement. Specifically, agreement appears to target the structurally most prominent  
1072 (=highest) argument that does not bear overt case marking.

1073 The relevant facts are shown in (25). In (25a), neither the subject nor the object are  
1074 overtly case-marked with the result that the participial verb and the auxiliary agree with  
1075 the subject, which is the higher of the two arguments in the clause. In (25b), the sub-  
1076 ject is overtly case-marked with Ergative, which leaves the object as the structurally most  
1077 prominent non-overtly case-marked argument. As such, the participial verb and the auxil-  
1078 iary agree with the object and not the subject.

- 1079 (25) a. Rahul kitaab parh-taa thaa  
Rahul.M book.F read-HAB.M.SG be.PST.M.SG  
1080 ‘Rahul used to read (a/the) book.’ (with F agreement: \*)  
1081 b. Rahul-ne kitaab parh-ii thii  
Rahul-ERG book.F read-PFV.F be.PST.F.SG  
1082 ‘Rahul had read the book.’ (with M agreement: \*) (Bhatt 2005:2)

1083 In the analysis of this effect that we will use to illustrate case-discriminating indexation,  
1084 it is not overt case-marking per se that is at issue. Rather, the arguments that bear overt  
1085 case marking– Ergatives and ‘differentially object marked’ direct objects– share the feature

1086 [+oblique]. A further feature [ $\pm$ subject] distinguishes Ergatives from Datives in the way  
 1087 that is shown in (26), which crosses these two features:

1088 (26) Case features: Hindi

	‘Ergative’	‘Dative’	‘Nominative’	‘Accusative’
1089 subject	+	-	+	-
oblique	+	+	-	-

1090 While (26) provides an approximation of what we will need for analysis, it can be  
 1091 further reduced. Hindi does not appear to distinguish between the [-oblique] arguments in  
 1092 any meaningful way; i.e., it does not appear to distinguish Nominative from Accusative. We  
 1093 can therefore replace (26) with (27), where the (+/-) specification for subject in [-oblique]  
 1094 arguments indicates that it could be either, or that [-oblique] arguments are simply not  
 1095 specified for two features (see Bhatia and Bhatt (2023) for an approach along these lines to  
 1096 Hindi case system).<sup>17</sup>

1097 (27) Hindi case features

	‘Ergative’	‘Dative’	‘Direct’
1098 subject	+	-	(+/-)
oblique	+	+	-

1099 The generalization that Hindi agreement is sensitive to overt case-marking can now be  
 1100 recast in terms of the features in (27). Rather than making reference to the presence (or  
 1101 absence) of an overt case marker, the agreement probe is specified to target the feature  
 1102 [-oblique]; case morphology happens to be null with such argument, but this fact is not

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<sup>17</sup>If this view is correct, i.e., if Hindi has **only** the cases in (27), there are implications for the analysis of Differential Object Marking (DOM), where DOM arguments bear case morphology that is identical to the Dative.

There are at least two ways in principle that this effect can be analyzed. One would be to take the DOM objects to be assigned a case that is distinct from both Accusative and Dative, but which is syncretic with the latter. A second option is that DOM is essentially assignment of Dative to certain objects. If (27) defines the full range of cases in the language, arguments with DOM receive the same features as typical Datives do (see e.g., Bickel and Yādava (2000), Kalin (2017) and references therein). That is:

- (i) Object case marking in Hindi
  - a. Assign Dative to arguments that meet the conditions for Differential Object Marking; else
  - b. assign Direct case.

See also our discussion of Gujarati below, which behaves differently from Hindi with respect to how DOM functions.

A similar MS/MP mismatch situation can be seen in Georgian, where accusative and dative marking are morphologically identical, with both typically called ‘dative’ in the literature. However, they exhibit different alternations in the different tense/aspect series. The ‘accusative’ datives become absolutive (i.e., nominative) in the aorist and optative, while true datives remain dative (McGinnis 2008:158).

1103 referred to by the agreement operation:<sup>18</sup>

1104 (28) T- (and Asp-) probes in Hindi: Agree with the highest [-oblique] argument.

1105 This accounts for the facts in (25): [-obl] arguments, i.e. those that are ‘Direct’ in (27) are  
1106 targets of Agree, while [+obl] Ergative and Dative arguments are not.

1107 One aspect of (28) that calls for further comment is that it involves two components: a  
1108 case specification, along with a statement of locality. Both of these are required for Hindi:  
1109 if there were only a case specification, application in Direct/Direct clauses like (25a) is  
1110 underdetermined: does T agree with the subject, the object, or both? On the point of how  
1111 targeting and locality may work together, a locality statement by itself is also insufficient.  
1112 Something along the lines of ‘agree with the highest argument’ is clearly not able to account  
1113 for the facts in (25b).

1114 It is important that the specification of Case-targeting in (28) make reference only to the  
1115 feature [-oblique], as both Ergative and Dative share the [+obl] feature. At the same time,  
1116 Ergative and Dative are indeed distinct cases: as shown in (27) they differ with respect to the  
1117 value of [ $\pm$ subj]. One consequence of this difference can be seen in the fact that Ergative  
1118 and Dative are realized different morphologically. To complete this part of the analysis, we  
1119 give Vocabulary Items in (29) that spell out this part of Hindi:

1120 (29) [+obl,+subj]  $\leftrightarrow$  -ne

1121 [+obl,-subj]  $\leftrightarrow$  -ko

1122 The account we have outlined is able to (i) encode why Ergative and Dative behave  
1123 identically for one property, viz. being invisible for agreement, while (ii) nevertheless being  
1124 realized distinctly in the morphology. That is, while one operation treats [+obl] Ergative  
1125 and Dative as a natural class, another part of the system reveals that these arguments are in  
1126 fact distinct featurally. This will be a recurring theme in the pages to come.

#### 1127 **2.4.2 Nepali: Case features and syncretisms**

1128 Another pattern of case-sensitive agreement is found in Nepali (cf. Bickel and Yādava 2000;  
1129 Bobaljik 2008). Unlike what was seen in Hindi above, in Nepali Agreement targets both  
1130 Nominative and Ergative arguments:

1131 (30) Nepali agreement

1132 a. ma yas pasal-mā patrikā kin-ch-u.  
1 S.NOM DEM.OBL store-LOC newspaper.NOM buy-NON.PST-1 S

1133 ‘I buy the newspaper in this store.’

1134 b. mai-le yas pasal-mā patrikā kin-ē.  
1 S.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1 S

1135 ‘I bought the newspaper in this store.’

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<sup>18</sup>If Long Distance Agreement is brought into the picture, it might be necessary to modify (28) slightly, in ways that depend on which analysis of that phenomenon is adopted.

1136 Other arguments are not agreed with. A case of interest involves Datives in ‘Non-  
1137 Canonical Subject’ verbs; in examples of this type, the verb agrees with the Nominative  
1138 object:

1139 (31) malāī timī man par-ch-au.  
1S.DAT 2M.H.NOM liking occur-NON.PST-2M.H  
1140 ‘I like you.’

1141 The fact that Datives are not agreed with, while Nominatives are, also surfaces else-  
1142 where in the system. In passives, for example, there is optionality: subjects can be either  
1143 Nominative or Dative; only the former trigger agreement:

1144 (32) a. ma ṭhag-ī-ē  
1S.NOM cheat-PASS-PST.1S  
1145 ‘I got cheated.’  
1146 b. malāī ṭhag-ī-yo  
1S.DAT cheat-PASS-PST.3S.M  
1147 ‘I got cheated.’

1148 The facts that have been examined to this point can be accounted for in a way that  
1149 differs minimally from the Hindi system seen above. In particular, and assuming that (as  
1150 we did earlier) Nominatives are [+subj,-obl] while Ergatives are [+subj,+obl], the Nepali  
1151 agreement pattern is derived via (33):

1152 (33) T-probe in Nepali: Agree with the highest [+subj] argument.

1153 That is, whereas the Hindi system is centered on [ $\pm$ obl], Nepali agreement makes reference  
1154 to the value of [ $\pm$ subj].

1155 It can be seen in Nepali (like in Hindi) that both locality and a case specification to-  
1156 gether define how agreement targets are found. A locality restriction alone– e.g. agreement  
1157 with the highest (i.e. most local) argument– makes incorrect predictions for the examples  
1158 with Dative subjects. In the other direction, targeting only the case feature [+subj], with  
1159 no reference to locality, does not specify what should happen in ERG/NOM examples like  
1160 (30), where it is the structurally higher Ergative that is agreed with.

1161 In addition to providing a useful point of comparison with Hindi on this dimension,  
1162 Nepali also further illustrates the fact that case-discriminating operations are driven by fea-  
1163 tures in a way that is independent of morphological realization.

1164 We saw above in the Hindi section that MS Agreement is not sensitive as to whether  
1165 something is overtly realized or not (rather, it just targets features that may or may not end  
1166 up getting realized as  $\emptyset$ ); now we will see that syntax also does not make reference to the  
1167 form of an overtly realized case marker, completing the paradigm. In (34) we illustrate a  
1168 further case employed in Nepali, Instrumental, which is syncretic with Ergative (example  
1169 from [Lindemann 2019](#)):

1170 (34) mai-le **camcā-le** bhāt khā-ẽ  
 1S.ERG spoon-INST rice eat-PST.1S  
 1171 ‘I ate the rice with a spoon.’

1172 Nepali thus (i) has three oblique cases– Ergative, Dative, and Instrumental– meaning  
 1173 that a further case feature is required, and (ii) realizes Ergative and Instrumental identically,  
 1174 in spite of their syntactic differences. On the former point, (35) shows an additional feature  
 1175 [ $\pm\alpha$ ], whose role is to make distinctions among the oblique cases; in doing so, it also  
 1176 makes Ergative and Instrumental share more feature content with each other than they do  
 1177 with Dative:<sup>19</sup>

1178 (35) Case features: Nepali

	‘Nominative’	‘Ergative’	‘Instrumental’	‘Dative’
1179 subject	+	+	-	-
oblique	-	+	+	+
$\alpha$	-	+	+	-

1180 The realization of Ergative and Instrumental together (and to the exclusion of Dative) can  
 1181 then be accomplished with the two Vocabulary Items in (36):

1182 (36) [+oblique,+ $\alpha$ ]  $\leftrightarrow$  -le *Ergative, Instrumental*  
 1183 [+oblique]  $\leftrightarrow$  -lāi *Dative*

1184 Whereas Hindi shows Ergative and Dative behaving the same for indexation, and differ-  
 1185 ing in the morphology, Nepali provides a kind of inverse of this. Ergative and Instrumental  
 1186 behave differently in that the former is an agreement target, while the latter is not; but these  
 1187 two cases nevertheless have shared feature content, as can be seen in their identical surface  
 1188 realization in the morphology.<sup>20</sup>

### 1189 2.4.3 Gujarati: More features vs. further action in the morphology

1190 We noted above that Hindi shows an interesting effect in how Differential Object Marking  
 1191 (DOM) relates to Dative case. DOs marked with *-ko* in Hindi, the morphological reflex of  
 1192 DOM, are not targets of MS Agreement. They thus behave the same as ‘true’ Datives with  
 1193 *-ko*, which are similarly excluded from entering into MS Agreement.

1194 The behavior of DOM in the Indo-Aryan language Gujarati in this domain provides a  
 1195 point of contrast with Hindi: Gujarati DOM is morphologically identical to Dative marking;  
 1196 but in Gujarati, DOM-marked DOs are targets of MS Agreement, while ‘true’ Datives are  
 1197 not. The main point of illustration is that there appear to be arguments that are identical in  
 1198 terms of their syntactic case features, but which differ in their morphological realization.

<sup>19</sup>Nepali also has Genitive, Locative, and Ablative cases. However, as these do not enter the indexation system or syncretize with cases that do, we do not consider them here.

<sup>20</sup>On this theme, one of the main goals of Akkuş (2020) is to demonstrate that the label *Oblique* in Northern Kurdish (including Zazaki) actually covers arguments that bear distinct cases for morphosyntactic purposes; at the same time, these are realized with the same form– a syncretism of the type seen in Nepali.

1199 This raises the question of whether the latter effect is due to the operation of postsyntactic  
1200 morphological processes, or something else.

1201 In Gujarati, like in Hindi, Ergative subjects (which are found in the perfective) are  
1202 not targets of MS agreement. In perfective transitive clauses it is therefore the Object that  
1203 is agreed with, as seen in (37) where the verb agrees with the masculine Object, not the  
1204 feminine Subject:<sup>21</sup>

1205 (37) sita-e kāgal vāc-yo  
sita(FEM)-ERG letter(MASC) read-PFV.MASC.SG  
1206 ‘Sita read the letter.’

1207 DOM in Gujarati is signalled by the suffix *-ne* on the DO; this is identical to the suf-  
1208 fix that surfaces with typical Datives. Crucially, though, DOM Objects continue to show  
1209 agreement on the verb, as can be seen in the pair of examples in (38):

1210 (38) a. sita-e raj-ne payav-yo  
Sita(FEM) Raj(MASC) harass-PFV.MASC.SG  
1211 ‘Sita harassed Raj.’  
1212 b. raj-e sita-ne payav-i  
Raj(MASC) Sita(FEM) harass-PFV.FEM.SG  
1213 ‘Raj harassed Sita.’

1214 DOM DOs in Gujarati thus differ from their Hindi counterparts in this respect. They also  
1215 differ from ‘true’ Datives affixed with *-ne*: these do not agree, whether they are Subjects  
1216 (39a) or selected by the verb (39b):<sup>22</sup>

1217 (39) ‘True’ Datives: no agreement  
1218 a. Kiṣor-ne chemistry bhaṇ-v-i ha-t-i  
Kiṣor-DAT chemistry(F) study-DESID-MASC.SG be-PFV-FEM.SG  
1219 ‘Kiṣor wished to study chemistry.’<sup>23</sup>  
1220 b. ṣilaa-thi raaj-ne (naa) maL-aa-y-ũ  
Sheela-INST Raj-DAT (not) meet-ABIL-PFV-DFLT  
1221 ‘Shee could (not) meet Raj. (Mistry 2004:23a)  
1222 (40) ṣilaa-thi raaj-ne (naa) jagaaD-aa-y-o.  
Sheela-INST Raj.(M)-ne (not) awake-ABIL-PF-M  
1223 ‘Sheela could (not) awaken Raj.’ (Mistry 2004:27a)

1224 Taken at face value, this looks like a situation in which distinct syntactic cases are  
1225 realized with the same exponent in the morphology; we saw something like this in the  
1226 analysis of Ergative/Instrumental syncretism in Nepali immediately above. In a nutshell,  
1227 the problem is as follows:

<sup>21</sup>Examples here are drawn from Bobaljik 2017, which is based on Mistry (1976, 1997).

<sup>22</sup>The subject is an Instrumental in (39b), hence not a possible agreement target.

<sup>23</sup>Translation taken from Mistry (1997).

- 1228 (41) DOM DOs in Gujarati behave ...  
 1229 a. as [-obl] for the purposes of MS Agreement (by virtue of being a target); but  
 1230 b. as [+obl] for the purposes of morphological realization (by virtue of syncretiz-  
 1231 ing with the Dative).

1232 The question of how to resolve this tension begins with the question of which syntactic  
 1233 case features are assigned to DOM-marked arguments. As we noted in 2.4.1 above, such  
 1234 arguments in Hindi appear to possess the same features as real Datives. As shown in this  
 1235 section, this cannot be the case for Gujarati, since DOM-marked objects and real Datives  
 1236 behave differently for indexation.

1237 With this in mind, there are a few different ways to analyze this part of Gujarati. One  
 1238 path to take would be to treat the system in terms of the case features shown in (33), which  
 1239 combines elements of the analyses of Hindi and Nepali above. Where it is not clear what  
 1240 value might fill a particular cell, we have acknowledged this with a question mark:

1241 (42) Cases: Gujarati

		‘Ergative’	‘Dative’	‘Direct’	‘DOM’
1242	subject	+	-	?	-
	oblique	+	+	-	-
	$\alpha$	?	+	?	+

1243 On this approach, DOM involves assignment of features that differ from those comprising  
 1244 the Dative:

1245 (43) Gujarati DOM: Assign [-obl,+ $\alpha$ ] to the DO (under the relevant conditions).

1246 The idea then is that MS Agreement in the language is sensitive to the feature [-obl],  
 1247 much as in Hindi:

1248 (44) MS Agreement: Agree with the highest [-oblique] argument.

1249 Morphological realization, however, is sensitive to the feature [ $\pm\alpha$ ], in the way that is  
 1250 shown in (45):

1251 (45) [+obl,+subj]  $\leftrightarrow$  -e *Ergative*  
 1252 [+ $\alpha$ ]  $\leftrightarrow$  -ne *Dative, DOM*

1253 This analysis produces the correct results; before assessing how it does this, we will con-  
 1254 sider an alternative to compare it with.

1255 Another possible way of treating Gujarati, which has been mentioned in the literature,  
 1256 departs from (43), and treats DOM-Objects as bearing the same case features as other  
 1257 DOs. In the abstract, this type of analysis provides another way of thinking about the ‘split  
 1258 behavior’ summarized in (41). Rather than reducing it to a difference in case assignment  
 1259 in the way we did above, it relies on ordering: DOM DOs are the same as other DOs for



1260 MS Agreement, but different for morphological realization, which comes later, due to an  
 1261 operation (or operations) that take place in the PF component. Such an analysis is suggested  
 1262 in Bobaljik (2017), although the specific mechanism(s) responsible for producing DOM are  
 1263 not examined. Bobaljik points to Kalin and Weisser’s (2019) more general discussion of  
 1264 why DOM in certain languages does not appear to implicate movement of the argument  
 1265 marked in this way. This paper hypothesizes that DOM might be produced by post-syntactic  
 1266 mechanisms, but do not provide a worked out analysis.

1267 To be more precise about what is at issue, it is necessary once again to consider what  
 1268 kinds of case features are involved. In (46) we have modified (33) above by eliminating  
 1269  $[\pm\alpha]$  (this is essentially the same as what we used for Hindi above):

1270 (46) Cases 2: Gujarati

	‘Ergative’	‘Dative’	‘Direct’	
1271	subject	+	-	?
	oblique	+	+	-

1272 DOs (like Subjects) are assigned the feature [-obl]. Something further is needed to encode  
 1273 DOM. Given the case system in (46), this could be a feature of another type; for the pur-  
 1274 poses of this discussion, we will assume that this is the feature [+specific].<sup>24</sup> Thus, for  
 1275 the purposes of the syntax DOM arguments have [-obl,+spec], while true Datives have [-  
 1276 subj,+obl,+spec].

1277 The difference in case features explains why Datives and DOM are treated differently  
 1278 for Agreement. The question then is what happens in the morphology. If we assume some-  
 1279 thing like the Vocabulary Items in (45), then the DOM [-obl,+spec] needs to become [+obl]  
 1280 before Vocabulary Insertion occurs; schematically:

1281 (47) [-obl,+spec] —?—> [+obl...]

1282 What is at issue is what the operation doing this might be. Since [+obl] is a marked value,  
 1283 it is not clear that the standard device for manipulating features— Impoverishment, which  
 1284 deletes them— could perform the work that is required.<sup>25</sup> We will not dwell on the details of  
 1285 (47) here, because for our purposes the main point to consider is what it would mean to put  
 1286 DOM case effects at PF, rather than in the syntax as on the first account we sketched.

1287 The comparisons of the syntactic and PF approaches leads in some interesting direc-  
 1288 tions. In particular:

---

<sup>24</sup>We posit [+specific] rather than features related to humanness/animacy because Gujarati DOM is reported as applying to inanimates; see Mistry (1997) for discussion.

<sup>25</sup>Though see Keine and Müller (2015), who make some assumptions that are different from ours. One possibility would be to assume that (i) case assignment can leave values underspecified, with (ii) feature-filling operations that apply at PF prior to Vocabulary Insertion. The idea would be to make the feature-filling sensitive to context, such that [+spec] causes the value of  $[\pm\text{obl}]$  to become positive. Cf. Neidle (1982b), who analyzes the Genitive of negation in Russian in this way. See also Noyer (1998) for pertinent discussion.

- 1289 • The case assignment approach accounts for the facts by positing the feature  $[\pm\alpha]$ ,  
 1290 whose only role as the analysis stands is to relate Dative and DOM. Whether this fea-  
 1291 ture could be motivated depends on how case assignment works– and, in particular,  
 1292 what it might say about what Datives and DOM have in common.<sup>26</sup>
- 1293 • A morphological account– sketched abstractly in (47)– requires concrete proposals  
 1294 concerning how a feature like [+spec] effectively converts Direct case features into  
 1295 Dative. Crucially, the action here is at PF, raising the question of what kinds of cross-  
 1296 linguistic generalizations could be derived from this approach.

1297 Continuing on the last point, the identity in form at issue, between true Datives and  
 1298 DOM, is not uncommon cross-linguistically. To us this suggests that (all else equal) it would  
 1299 be desirable to try to explain it as a deep property; in terms of the options outlined above,  
 1300 as part of how case features are assigned in the syntax.<sup>27</sup>

1301 While we will not examine DOM further here, the main points of this look at Gujarati  
 1302 are a clear extension of ideas that we illustrated above. In particular, the indexation of  
 1303 arguments (MS Agreement) is sensitive to features in a way that is not directly reflected in  
 1304 the surface realization of case: both DOM arguments and Dative are marked with *-ne*, but  
 1305 only the former agree. Once again this shows the independence of case features (and their  
 1306 interaction with MS operations) on the one hand, and their morphological realizations on  
 1307 the other.

#### 1308 2.4.4 Maithili: The transmission of case features

1309 Our fourth example, also discussed in Bickel and Yādava 2000, is a bit more specula-  
 1310 tive. It involves the idea that a  $\varphi$  marker itself– in this particular case, an MP Agreement  
 1311 morpheme– may possess case features that are transferred to a probe via MS agreement.

<sup>26</sup>As far as this goes, the same kind of questions could be asked for the analysis of Nepali, where a  $[\pm\alpha]$  is used to relate Ergative and Instrumental cases.

<sup>27</sup>Some evidence from Gujarati appears to support the idea that the DOM effect is syntactic. As we noted earlier, Kalin and Weisser (2019) discuss action in the morphology as one possible way of dealing with languages that allow asymmetric coordination with DOM. However, Gujarati (like Hindi) disallows coordination of this type.

- (i) a. sita-e māṅas-ne ᱚᱟ-j-o  
 Sita(FEM) man(MASC) see-PFV.MASC.SG  
 ‘Sita saw the man.’
- b. sita-e kāgal ᱚᱟ-j-o  
 Sita(FEM) letter(MASC) see-PFV.MASC.SG  
 ‘Sita saw the/a letter.’
- c. \*sita-e kāgal anē māṅas-ne ᱚᱟ-j-aa  
 Sita(FEM) letter(MASC) and man(MASC) see-PFV.MASC.PL  
 Intended: ‘Sita saw a letter and the man.’

Data here are from the field notes of Monica Alexandrina Irimia (pers. comm.), who also reports that if ‘letter’ is interpreted as a definite, as if it were differentially marked, this sentence is acceptable (although not all speakers allow the differential marker on inanimates; cf. Fn. 24).

1312 Since we will make use of this idea in our analysis of Sorani later (see also Akkuş 2020:25  
 1313 for this view in Northern Kurdish languages), we provide a preliminary look at this kind of  
 1314 effect here in the Indo-Aryan context.

1315 The example is drawn from Maithili, which is spoken in India and Nepal. The targeting  
 1316 part of Maithili is quite complex. What is important for our purposes is that MP agree-  
 1317 ment morphemes make a distinction between Nominative and Non-Nominative arguments,  
 1318 suggesting the transfer of an argument's case features along the lines noted above.

1319 One contrast illustrating this point is seen in (48), where the difference between Nomi-  
 1320 native and Dative subjects has an interpretive correlate (cf. the 'INVOL(untary) morpheme  
 1321 in (48b)), and where the form of agreement is changed as well; that is, NOM in (48a), and  
 1322 NON.NOM in (48b):

- 1323 (48) a. o hās-l-*aith*  
 3H.REM.NOM laugh-PST-3H.NOM  
 1324 'He (honorific, remote) laughed.'  
 1325 b. hunkā hās-ā-ge-l-*ainh*  
 3H.REM.DAT laugh-INVOL-TEL-PST-3H.NON.NOM  
 1326 'He (honorific, remote) burst into laughing.' (Bickel and Yādava 2000:346)

1327 In transitive clauses (and clauses with more than one argument more generally), NOM and  
 1328 NON.NOM can cooccur, as shown in (49):

- 1329 (49) u hunkā māra-l-k-*ainh*.  
 3NH.REM.NOM 3H.REM.DAT beat-PST-3.NOM-3H.NON.NOM  
 1330 'S/he (non-honorific, remote) beat him/her (honorific, remote).' (Bickel and Yādava  
 1331 2000:11a)

1332 This suggests that there might be two distinct heads probing for arguments to agree with  
 1333 in such clauses, one targeting Nominatives, the other Non-Nominatives (NON.NOM).

1334 As we noted above, the condition under which arguments come to be agreed with is  
 1335 not our primary focus here. Instead, we wish to highlight the idea that the realization of  
 1336 agreement is sensitive to case features. There are in principle at least two ways in which  
 1337 this sensitivity could be analyzed, one of which is more relevant to our purposes than the  
 1338 other. Beginning with that, the idea would be that (abstractly), the Vocabulary Items real-  
 1339 izing agreement morphemes make reference to case features; in this case, whatever feature  
 1340 (or features) distinguishes Nominative from the other cases. Using  $[\pm\alpha]$  for this, the mor-  
 1341 phological difference can then be stated as in (50):<sup>28</sup>

- 1342 (50) Reference to case features (abstract)  
 1343 a.  $[+1,-2,+\alpha] \leftrightarrow -x$  -x for 'NOM agreement'  
 1344 b.  $[+1,-2,-\alpha] \leftrightarrow -y$  -y for 'NON.NOM agreement'

<sup>28</sup>We represent NOM and NON.NOM abstractly with -x and -y to avoid getting into the fine-grained details of agreement realization in Maithili.

1345 On this type of analysis, it is assumed that case features of the goal are transferred to the  
1346 probe when agreement occurs, along with the goal's  $\varphi$ -features.

1347 Another possibility is that the realization of agreement morphemes is not sensitive to  
1348 case features directly, but indirectly, due to there being two distinct probes involved. If,  
1349 for example, there is a probe X targeting Nominatives, and a probe Y that targets Non-  
1350 Nominatives, then the spell-out of agreement could be made sensitive to the presence of the  
1351 heads X and Y. The precise analysis of this effect in Maithili would require a number of  
1352 additional assumptions (concerning both the morphosyntax of agreement, and the segmen-  
1353 tation of Tense and person-number/case morphemes) that would take us too far afield for  
1354 the purposes of this chapter. Our purpose here, in any case, is not to exhaustively explore  
1355 options, but instead to illustrate the general nature of a type of analysis; this suffices to set  
1356 the stage for later chapters, in which we will make use of something along the lines of (50)  
1357 in our analysis of Sorani.

## 1358 2.5 Summary

1359 This chapter has outlined some of the theoretical assumptions that will play a role in the  
1360 analysis of Sorani varieties later in the book. The three most important points are the fol-  
1361 lowing:

1362 **Architecture: MS and MP** We assume an approach in which MS agreement and clitic  
1363 movement operations play a central role in indexation. The MP status of a particular  $\varphi$  bun-  
1364 dle that is involved in this system is determined in a derivation that includes an articulated  
1365 PF component with Late Insertion, as schematized in (9).

1366 **Case features** Case labels like 'Nominative', 'Accusative', and so on are shorthand for  
1367 combinations of case features. The decomposition at the heart of this approach is essential  
1368 in accounting for both MS behavior (indexation) and for morphological realization.

1369 **Case Targeting** MS operations (agreement, clitic movement) may be specified to apply  
1370 to arguments with certain case features. This view of case sensitivity relates directly to the  
1371 notion of *Case Discrimination* that has been discussed in the literature.

1372 **Morphological realization** The classes of case features referred to by MS case-targeting  
1373 indexation operations need not be the same as those that play a role in MP realization.  
1374 Thus, the architecture we assume, in which MS operations precede the realization of case  
1375 morphemes through Vocabulary Insertion, admits situations in which MS case patterns and  
1376 MP case patterns are mismatched.

1377 Having outlined these components of our approach, and illustrated some aspects of them in  
1378 the case-studies immediately above, we turn in the next chapter to Sorani Kurdish, which  
1379 will take center stage in the remainder of the book.

1382 The core chapters of this book present an analysis of the argument indexation patterns of  
 1383 Sorani Kurdish, with a particular focus on how these interact with an alignment split that  
 1384 distinguishes perfective from imperfective clauses. As we saw in Chapter 2, the basic way of  
 1385 describing this system pairs Direct/Oblique imperfectives with Oblique/Direct perfectives,  
 1386 as shown in (1)-(2):

1387 (1) (ême) de=**yan** bîn-în  
 1 PL.pro IND=3PL.CL see.PRS-1PL

1388 ‘We see them.’

1389 (2) (ême) de=**man** bînî-n  
 1 PL.pro PROG=1PL.CL see.PST-PL

1390 ‘We were seeing them.’

1391 The basic observation here is that in the imperfective (1), the subject is indexed by an  
 1392 agreement morpheme on the verb, while the object is indexed by a pronominal clitic. In  
 1393 the perfective (2), the situation is reversed: agreement goes with the object, while the clitic  
 1394 indexes the subject.

1395 Alignment splits of this type arise early in the history of Iranian languages, and are the  
 1396 subject of an extensive literature. Haig (2008) provides one detailed discussion that also  
 1397 provides a focus on the details of alignment in different Kurdish varieties. For relevant per-  
 1398 spectives see also Jügel 2009; Jügel and Samvelian 2020; Mohammadirad 2020b; Karimi  
 1399 2012; Benveniste 1952/1966; Samvelian 2007a; Bynon 1979; Dorleijn 1996; Gharib and  
 1400 Pye 2018; Haig 2017.

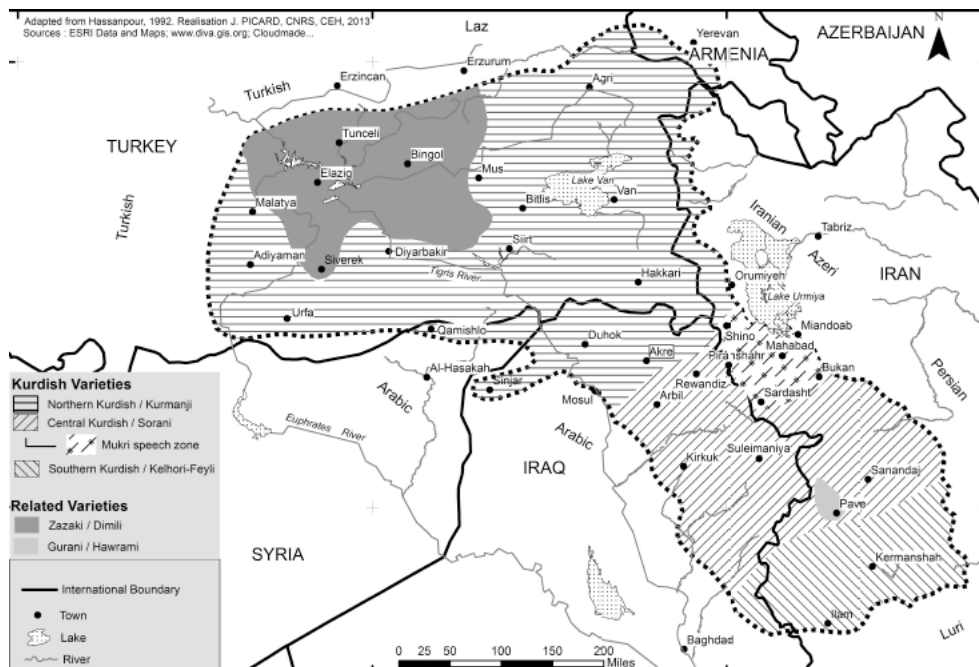
1401 This chapter provides the syntactic and morphological foundations for the analysis of  
 1402 Sorani alignment that begins with Chapter 3. After presenting some general aspects of So-  
 1403 rani Kurdish in 3.1, we look in 3.2 at the basic clausal syntax of the language; the focus in  
 1404 this section is on the heads that comprise the clausal spine, and on some basic facts about  
 1405 word order. Following this, we review the notion of *Subjecthood* in Sorani. This notion (or  
 1406 more precisely, the set of properties that comprise it) will play a role at many points later  
 1407 in this work, as it will be important to identify which argument in the clause exhibits the  
 1408 properties that are associated with typical subjects. Section 3.4 provides a summary of key  
 1409 ideas.

1410 **3.1 Sorani Kurdish: Some basics**

1411 Kurdish belongs to the Western branch of Iranian languages, where it is typically placed  
 1412 into the Northwest Iranian subgroup (there are debates about the details; see e.g. Paul 2016;  
 1413 Haig 2008; Jügel 2009). The three major varieties of Kurdish are: (i) Southern Kurdish,  
 1414 spoken under various names near the city of Kermanshah in Iran and across the border in  
 1415 Iraq; (ii) Central Kurdish (also known as Sorani, the name that we employ here), and (iii)  
 1416 Northern Kurdish (also called Kurmanjî). Northern Kurdish refers to a group of Kurdish  
 1417 dialects spoken primarily in southeastern Turkey, the north of Iraq and parts of Syria, the  
 1418 northwestern Iranian province of West Azerbaijan, and in pockets in the west of Armenia.

1419 Sorani Kurdish is one of the official languages of the autonomous Kurdish region in Iraq  
 1420 (e.g. Sulaymaniyah and Erbil provinces), and is also spoken by a large population in western  
 1421 Iran along the Iraqi border (cf. and Haig 2014 for a discussion on defining “Kurdish”). In  
 1422 this book, we will use the term *Sorani Kurdish* to refer to two varieties spoken in various  
 1423 parts of Iran and Iraq. These are “Standard” Sorani Kurdish (SSK): to a first approximation,  
 1424 the variety spoken in the city of Sulaymaniyah;<sup>1</sup> and Garmiani Kurdish (GK), which is  
 1425 spoken in a region south of Sulaymaniyah, in parts of Kalar, Bawanour, and Chamchamal,  
 1426 around Lake Darbandikhan.

1427 (3) map of Kurdish varieties (Öpengin 2016:2)



1428  
 1429 SSK has been studied and analyzed in a number of works, including Thackston 2006b,

<sup>1</sup>Although this is a standard, and hence familiar to many speakers, it is nevertheless not a monolithic entity; we have encountered speakers from Sulaymaniyah who have differences from the patterns reported in the literature.

1430 Samvelian 2007a, Haig 2008, Karimi 2013, Kareem 2016, and Öpengin 2016, among oth-  
1431 ers. Garmiani has not been analyzed as such in the literature, that we are aware of.

1432 The data in this book come from various sources. The SSK data is drawn from pub-  
1433 lished works as well as from our work with speakers of this variety. For GK, one of the  
1434 authors is a native speaker, and his judgments have been confirmed with a further set of  
1435 native speakers. In cases where there is a variation among our consultants, or a variation  
1436 between the literature and our consultants, we noted these as such. As far as the relation  
1437 between SSK and GK is concerned, it should be noted that GK speakers are also familiar  
1438 with SSK. Although this might not be their native variety, they also typically accept SSK  
1439 forms/data, citing the influence of media and education in the propagation of the SSK va-  
1440 riety. We have therefore been careful throughout our investigation to determine whether  
1441 particular examples are grammatical in one or the other variety, or both.

1442 The two varieties examined in this book share certain key properties. Both lack overt  
1443 case marking on nouns, and rely solely upon person/number markers to express the gram-  
1444 matical relations of the arguments in a clause. Importantly, both display the alignment split  
1445 in which transitive subjects in the perfective aspect receive Ergative case (though they differ  
1446 in terms of how they treat objects in the perfective, as we will see in Chapter 4). As far as we  
1447 have been able to determine, the basic clausal syntax of SSK and GK is identical; we have  
1448 not identified any important differences between the varieties. While there are some lexical  
1449 and morphophonological differences between them, these will not play a significant role in  
1450 our discussion. With this in mind, we will use the general term *Sorani Kurdish* (SK) when  
1451 speaking of properties that are common to both. This is a convenience we allow ourselves  
1452 in this work, based on having looked at both varieties in detail; we do not necessarily expect  
1453 all of the properties that we identify here to be found in other varieties of Kurdish that could  
1454 be identified as Sorani.

### 1455 **3.2 Basic syntax**

1456 In this section, we provide a basic structure for Sorani Kurdish clauses. In the course of  
1457 doing this, we will introduce the (functional) heads that play a defining role in the system  
1458 of alignment and argument indexation that is our main focus in later chapters.

1459 Even basic aspects of Sorani Kurdish clausal syntax present numerous challenges, es-  
1460 pecially in the domain of word order. In terms of major constituents, Sorani Kurdish is an  
1461 SOV language (in line with what has been reported for other Iranian languages; Karimi  
1462 2013; Atlamaz 2012; Gündoğdu 2011; Karimi 2019, i.a.), but is predominantly head-initial  
1463 in many other parts of its syntax. Our initial pass through Sorani clause structure will pro-  
1464 vide enough of a scaffold to support our analysis of the alignment and indexation system in  
1465 Chapters 4-5. Some additional phenomena of interest will be pointed to along the way, but  
1466 these will not be treated in detail so that we can maintain our primary focus.

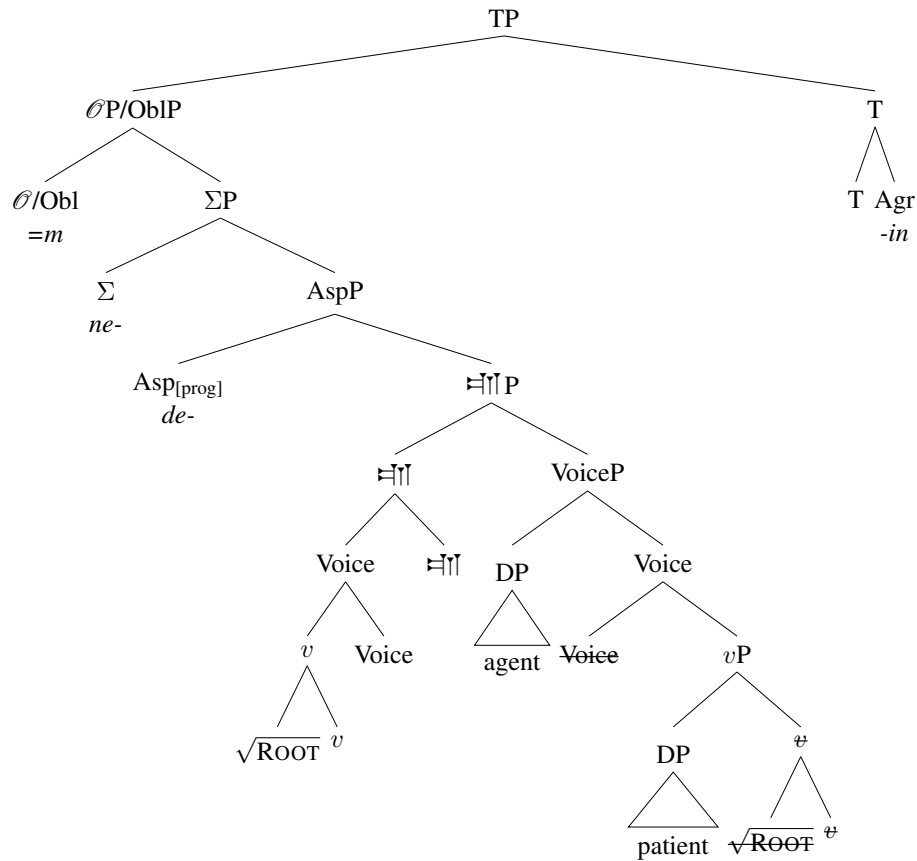
1467 **3.2.1 Clause structure**

1468 As a working hypothesis, we adopt the structure in (4b) for a negated past progressive clause  
 1469 like (4a); this form is chosen for expository purposes because it displays a large number of  
 1470 overt morphemes:

- 1471 (4) a. *ne=m de-xward-in*  
 NEG=1SG.CL PROG-eat.PST-PL  
 1472 ‘I was not eating them.’

1473 b. Structure

1474

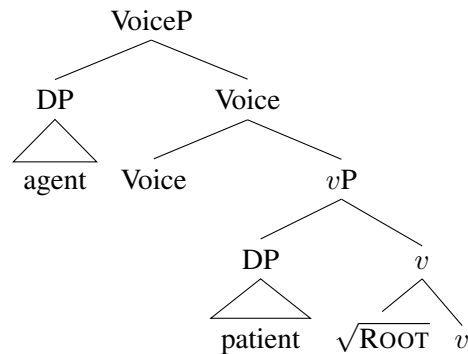


1475 Starting from the bottom of the structure, the verbalizer *v* categorizes the root (and is  
 1476 realized as the “causative morpheme” when it is present). Voice is above this:

- 1477 (5) VoiceP



1478



1479 Note that we show the *vP* to be head-final (in line with the standard assumption about Iranian languages; Karimi 2013; Atlamaz 2012; Gündoğdu 2011; Karimi 2019, i.a.). However  
 1480 there seems to be object shift (see below), making this and some other points about word  
 1481 order and headedness difficult to determine.  
 1482

1483 Voice is realized overtly in the form of the passive exponents *-rê/-ra*, which can be seen  
 1484 in the following examples:<sup>2</sup>

- 1485 (6) a. (ewan) de=m kuj-in.  
 3PL.pro IND=1SG.CL kill.PRS-3PL  
 1486 ‘They will kill me.’  
 1487 b. (min) de-kuj-rê-m.  
 1SG.pro IND-kill.PRS-PASS.PRS-1SG  
 1488 ‘I will be killed.’
- 1489 (7) a. (ême) kuşt=man-in.  
 1PL.pro kill.PST=1PL.CL-3PL  
 1490 ‘We killed them.’  
 1491 b. (ewan) kuj-ra-n.  
 3PL.pro kill.PRS-PASS.PST-3PL  
 1492 ‘They were killed.’

1493 The head above Voice is perfective Aspect (Asp[+perfective]) and plays a crucial role  
 1494 in Sorani syntax (and that of most other Iranian languages). In what has become a standard  
 1495 description in the literature on Iranian, the verbal system in Sorani Kurdish is spoken of as  
 1496 being based on two so-called verb “stems”, traditionally referred to as “present stem” and  
 1497 “past stem.” In morphosyntactic terms, this distinction reflects the locus of an alignment  
 1498 split: imperfective clauses are Direct/Oblique, while perfective clauses are Oblique/Direct.  
 1499 We will replace these labels with Nominative/Accusative and Ergative/Objective in Chapter  
 1500 4, for reasons that are specified there.

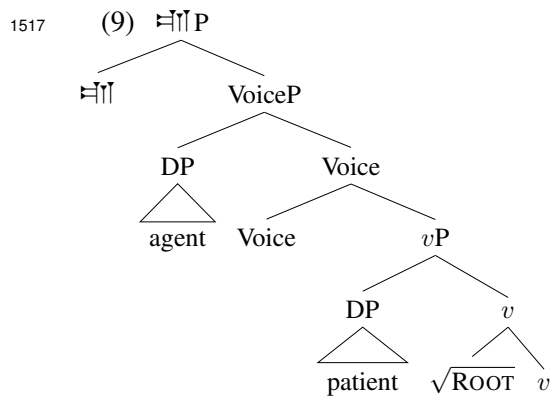
<sup>2</sup>In presenting Sorani examples we gloss over many details of phonetic realization. In addition, we will alternate between IPA and Latin orthography depending on what our primary concerns are. Concerning transcription, our examples contain more than one convention, partly reflecting this variation in original sources. For example, the IPA /ʃ/ sound is represented as both *š* and *ş*, or a long vowel can be marked with either *ˆ* or *˜*.

1501 In taking the alignment split to be defined by Aspect (and not clausal Tense), we follow  
 1502 Akkuş (2020) and Baker and Atlamaz (2014) (see also Haig (2008, 2017), Kalin and Atla-  
 1503 maz (2018), Legate (2017) for the same view). This Aspectual head (called *Stem* in Akkuş  
 1504 (2020)) is derived historically from the Old Iranian perfect participle, and is represented  
 1505 as 𐭥𐭮𐭫 (Old Persian *-ta*) in (4b) to distinguish it from another Aspectual head that appears  
 1506 in Sorani clauses. Semantically, the 𐭥𐭮𐭫 (=Asp[+perf]) head defines completed actions. Its  
 1507 morphological realization defaults to *-d* in the Sorani varieties we examine here (it has  
 1508 other forms in other varieties). In many cases it interacts allomorphically with the verbal  
 1509 Root, such that the realization of these two heads is closely intertwined (hence the typical  
 1510 description in terms of “stems”). (8) provides some Sorani verbs in the perfective and im-  
 1511 perfective, with the infinitive providing a basis for comparison; to keep things simple, we  
 1512 have not segmented morphemes here, as this is orthogonal to our primary concerns:

1513 (8)

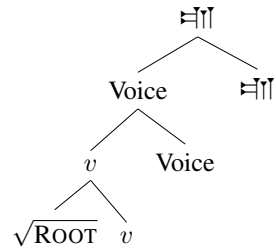
<b>Infinitive</b>	<b>Perfective Stem</b>	<b>Imperfective Stem</b>	<b>Verb Root</b>
mirdin ‘to die’	mird-	mir-	mir-
kuştin ‘kill’	kuşt-	kuş-/kuj-	kuş-/kuj-
kewtin ‘fall’	kewt-	kew-	kew-
kêşan ‘to weigh’	kêşa-	kêş-	kêş-
çûn ‘to go’	çû-	ç-	ç-
kirrîn ‘to buy’	kirrî-	kirr-	kirr-
dirûn ‘to sew’	dirû-	dir-	dir-
royştin ‘to leave’	royşt-	ro-	ro-

1514 In terms of what is realized as the “past-stem” – for us a perfective form of the verb –  
 1515 we have the configuration shown in (9), and we assume that the verb moves up to 𐭥𐭮𐭫 (at  
 1516 least), to create the complex head shown in (10):



1518 (10) complex head

1519



1520 As noted above, 𑂀𑂩 is central to the alignment splits seen in SK. More specifically, we  
 1521 assume (see Akkuş 2020) that 𑂀𑂩 plays a role in making transitive Agents Oblique when it  
 1522 is present; in short form, the heads 𑂀𑂩 and Voice together license the Ergative case features  
 1523 on transitive subjects, in a way that could be made precise in different ways depending on  
 1524 what assumptions about how case assignment are adopted.<sup>3</sup> We take it that the aspectual  
 1525 head 𑂀𑂩 is present only in perfectives; in basic imperfectives, it is absent. This analysis of  
 1526 split ergativity is based in part on a structural asymmetry, specifically with the perfective  
 1527 containing more structure than the non-perfective; this has been also argued to be the case  
 1528 for Indo-Aryan languages (see e.g., Grosz and Patel-Grosz 2014).

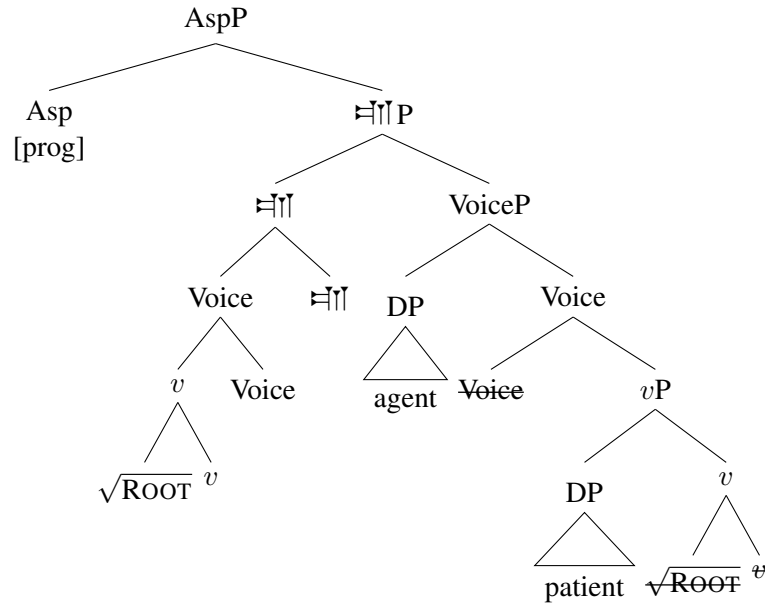
1529 There is a second kind of morpheme that appears higher than 𑂀𑂩, which introduces a  
 1530 progressive interpretation. This type of clause is imperfective above the level at which per-  
 1531 fectivity is introduced; a kind of ‘secondary’ imperfective. This head, Asp[prog], is realized  
 1532 as *de-*, as shown in (11):

- 1533 (11) (to) de=t bîñî-n  
 2SG.pro PROG=2SG.CL see.PST-PL  
 1534 ‘You were seeing us.’

1535 We take this *de-* to realize a “progressive” Aspect head Asp[prog], which is immediately  
 1536 above 𑂀𑂩:

- 1537 (12) Past progressive

<sup>3</sup>For some specifics, see Akkuş (2020); cp. also Clem (2019) for a similar approach to ergative case in Amahuaca (Panoan, spoken in Peru).



1538

1539 In addition to these heads, we posit a head  $\Sigma$  for affirmation/negation (cf. Laka 1990,  
 1540 or Pol(arity)P in the sense of Iatridou 1990). The head  $\Sigma$  has an overt realization in both the  
 1541 affirmative and the negative. Imperfective verb forms obligatorily show a *de-* prefix (glossed  
 1542 IND for ‘indicative’ – see Haig 2008 for the use of this label) that is in complementary  
 1543 distribution with *ne-/na-*, the negative morpheme:<sup>4</sup>

- 1544 (13) a. (min) *de=î*            *şikên-im.*  
 1545            1 SG.pro IND=3 SG.CL break.PRS-1 SG  
 1546            ‘I (will) break it.’  
 1547            b. (min) *ne=î*            *şikên-im.*  
                  1 SG.pro NEG=3 SG.CL break.PRS-1 SG  
                  ‘I (will) not break it.’

1548 There is also a subjunctive prefix *be-* that is realized in what appears to be the  $\Sigma$  head; hence  
 1549 ‘indicative’ for *de-*. Note that indicative *de-* is found only in the imperfective system, and  
 1550 is distinct from the progressive *de-* shown in (4b) that is found in the perfective system as  
 1551 the realization of the Asp[prog] head. The latter may cooccur with negation, (14), while the  
 1552 former is in complementary distribution with it, as such any combination of the negation and  
 1553 the indicative leads to ungrammaticality, as in (15). Nor are other combinations possible.

- 1554 (14) *ne=m*            *de-xward-in*  
                  NEG=1 SG.CL PROG-eat.PST-3 PL  
 1555            ‘I was not eating them.’

<sup>4</sup>Of course, it is a puzzle why there is no realization of  $\Sigma$  in perfectives in many languages. For example, Armenian has the same property as Kurdish varieties, in which the indicative head is overtly visible only in the non-past/non-perfectives (Bezrukov 2022).

- 1556 (15) a. \*min ne=**î** de=**şikên-im**.  
 1557 1 SG.pro NEG=3 SG.CL IND=break.PRS-1 SG  
 'I (will) not break it.'
- 1558 b. \*min ne-de=**î** **şikên-im**.  
 1559 1 SG.pro NEG-IND=3 SG.CL break.PRS-1 SG

1559 The next heads in (4b) play an important role in the indexation system of Sorani. First,  
 1560 above  $\Sigma$  we posit a head  $\mathcal{O}$ , informally  $\mathcal{O}$ (blique). This head serves multiple functions.  
 1561 First, on our analysis it is the locus of oblique clitics– and hence central to the indexation  
 1562 system of Sorani– in a way that is explained in the next section. Second, it appears to be  
 1563 the target of “Object Shift”, an obligatory movement of  $vP$  internal DPs (see below). These  
 1564 DPs are the clitic hosts exemplified in (19), which, according to our view, precede the clitic,  
 1565 (i.e. appear higher than the  $\mathcal{O}$  to which the clitic attaches). We interpret this showing that  
 1566 (most) objects move out of the  $vP$  to Spec,  $\mathcal{O}P$ .<sup>5</sup>

1567 Finally, the highest head in (4b) is Tense, which like  $\mathcal{O}$  is implicated in agreement and  
 1568 clitic movement operations. The only overt realization of finite Tense that we are aware of  
 1569 is found in perfects, as in (16), where there is an alternation between  $-û$  in present perfect  
 1570 versus  $-bû$  in past perfect; both perfects cooccur with perfective  $\text{≡}\uparrow\uparrow$ :

- 1571 (16) perfects (present and plusquam)
- 1572 a. xward-**û**=m-in  
 1573 eat.PST-PERF=1 SG.CL-3PL  
 'I have eaten them'
- 1574 b. xward-**bû**=m-in  
 1575 eat.PST-be.PST=1 SG.CL-3PL  
 'I had eaten them'

1576 We place Tense as head-final, for reasons having to do with clitic placement and word order  
 1577 that go beyond the scope of the current discussion. As we noted earlier, we believe that the  
 1578 working analysis of the clause embodied in (4b) is a first approximation; while it could be  
 1579 elaborated on in various ways, these do not bear directly on how indexation works, and we  
 1580 will therefore put them to the side.

### 1581 3.2.2 Word order

1582 The basic word SOV word order of Sorani can be seen in the examples in (17). These show  
 1583 a full DP subject and object, for the imperfective and perfective aspects respectively. Im-  
 1584 plementing a convention that we introduced in the first chapter of this book for  $\varphi$  elements,  
 1585 we use *italics* for morphophonological (MP) agreement morphemes, and **boldface** for MP  
 1586 clitics:

<sup>5</sup>A topic for future work on Sorani syntax would involve comparing these effects to others seen crosslin-  
 guistically, in which it has been argued that arguments leave the  $vP$ ; see e.g. Wood (2017) for Icelandic, Shibata  
 (2015a,b) for Japanese.

- 1587 (17) a. ewan sêw-ek-an de-bîn-*in*.  
 3PL.pro apple-the-PL IND-see.PRS-3PL  
 1588 ‘They see the apples.’  
 1589 b. ewan sêw-ek-an=**yan** bînî.  
 3PL.pro apple-the-PL=3PL.CL see.PST  
 1590 ‘They saw the apples.’

1591 The imperfective (17a) shows MP Agreement *-in* with the subject of the clause. The  
 1592 perfective (17b) shows an MP clitic =**yan** that indexes the transitive subject.

1593 The same set of clitic forms is used for objects in transitive clauses; compare (18), where  
 1594 in the imperfective, MP clitic =**yan** indexes the transitive object, whereas MP agreement *-in*  
 1595 is the indexer for the same argument in the perfective:

- 1596 (18) a. min de=**yan** bîn-im.  
 1SG.pro IND=3PL.CL see.PRS-1SG  
 1597 ‘I see them.’  
 1598 b. min de=m bînî-*[i]n*.  
 1SG.pro PROG=1SG.CL see.PST-3PL  
 1599 ‘I was seeing them.’<sup>6</sup>

1600 These clitics play an important role in our discussion of alignment and indexation, and  
 1601 are treated in detail starting in Chapter 4. Another aspect of their behavior, viz. their dis-  
 1602 tribution, is also complex, and interacts with other aspects of SK word order. To a first  
 1603 approximation, this clitic is attached to an internal argument (DO or IO) if an overt one of  
 1604 these appears in the clause. Various other hosts are possible as well, as shown in (19):

- 1605 (19) a. (ew) sêw-ek-an=**î** xward  
 3SG.pro apple-the-PL=3SG.CL eat.PST  
 1606 ‘S/he ate the apples.’ (standard DO)  
 1607 b. name-(e)k(e)-an=**î** bo ewan ne-nard.  
 letter-the-PL=3SG.CL to them NEG-send.PST  
 1608 ‘He did not send the letters to them.’ (DO in a ditransitive)  
 1609 c. çî=**î** xward?  
 what=3SG.CL eat.PST  
 1610 ‘What did he eat?’ (*wh*-phrase)  
 1611 d. bo ewan=**î** ne-nard-*in*.  
 to them=3SG.CL NEG-send.PST-PL  
 1612 ‘He did not send them to them.’ (IO in a ditransitive, [Kareem 2016:102](#), (13b))

<sup>6</sup>The =**yan** form in (17b) and (18a) thus realizes Ergative and Accusative, respectively, in more familiar terms. [Haig \(2008:13\)](#) notes this and comments: “... what is found in Iranian, namely formal identity between an Ergative marker and an Accusative marker is, as [Bossong \(1985: 118121\)](#) points out, a genuine typological rarity.” and goes on to explain there is no unique Ergative marker. See also fn. 1 in Chapter 1.

- 1613 e. (to) bo Nermîn=**it** kîrî.  
2SG.pro for Nermîn=2SG.CL buy.PST.3SG  
1614 ‘You bought it for Nermîn.’ (applied argument)
- 1615 f. (min) naxoş-ek-an=**im** çareser kird.  
1SG.pro patient-the-PL-1SG.CL treatment do.PST  
1616 ‘I treated the patients.’ (DO in a light verb situation)
- 1617 g. (min) çareser=**im** kird-*in*.  
1SG.pro treatment-1SG.CL do.PST-PL  
1618 ‘I treated them.’ (nominal part of the light verb)

1619 In contrast to what is shown in (19), subjects do not host the clitic (20a); the same is true of  
1620 adverbs and depictives (20b-d):

- 1621 (20) a. ewan=(**\*yan**) sêw-eke=**(yan)** xward  
3PL.pro=3PL.CL apple-the=3PL.CL eat.PST  
1622 ‘They ate the apple.’ (subject)
- 1623 b. ewan dwênê=(**\*yan**) sêw-eke=**(yan)** xward  
3PL.pro yesterday=3PL.CL apple-the=3PL.CL eat.PST  
1624 ‘They ate the apple yesterday.’ (temporal adverb)
- 1625 c. ewan xêra=(**\*yan**) sêw=**(yan)** xward  
3PL.pro fast=3PL.CL apple=3PL.CL eat.PST  
1626 ‘They did apple-eating fast.’ (manner adverb)
- 1627 d. ême be serxoşî=(**\*man**) bînî=**(man)**-*in*  
1PL.pro in drunk=1PL.CL see.PST=1PL.CL-PL  
1628 ‘We saw them drunk.’ (depictive)

1629 If none of the possible hosts in (19) is present in a clause containing a clitic, it attaches  
1630 to the verb. In doing this, it displays a type of second-position effect: if the verb has a  
1631 prefix, it attaches after the prefix (i.e. between the prefix and the verb), (21a); if there are  
1632 two prefixes, it appears after the first of these, (21b); and finally, if there are no prefixes, it  
1633 attaches at the end of the verbal complex, (21c):<sup>7</sup>

- 1634 (21) a. ême de=**man** bînî-*n*  
1PL.pro PROG=1PL.CL see.PST-PL  
1635 ‘We were seeing them.’
- 1636 b. ême ne=**man** de-bînî-*n*  
1PL.pro NEG=1PL.CL PROG-see.PST-PL  
1637 ‘We were not seeing them.’

<sup>7</sup>This aspect of MP-clitic placement shows considerable variation across varieties. For example, in some Western Iranian languages (e.g., Laki dialects, Gorani, Luri-type dialects), prefixes in the verbal complex do not serve as licit clitic hosts. In others, MP-clitics appear to be re-ordered with respect to MP-Agreement markers that appear on the verb; see e.g., Haig (2008); Mohammadirad (2020b).

1638 c. ême bîni=**man-in**  
 1 PL.pro see.PST=1 PL.CL-PL  
 1639 ‘We saw them.’

1640 This distribution poses a number of challenges for theories of clitic placement; see e.g.  
 1641 Haig 2008; Öpengin 2016, 2019; Samvelian 2007a, 2008; Mohammadirad 2020b. For our  
 1642 purposes, however, it suffices to note that the distribution of this MP-clitic is different from  
 1643 that displayed by what is called MP-agreement; the latter elements are found only on the  
 1644 verb.

1645 As illustrated in various examples above, the standard SK clause is SOV, with prefixal  
 1646 elements realizing  $\Sigma$  and Asp[prog] attached to the verb. Whether or not the verb actually  
 1647 moves all the way to Tense in (4b) is a complex question, one that interacts with clitic  
 1648 placement, as well as other aspects of Sorani syntax.

1649 On the latter point, an examination of basic word-order effects in conjunction with  
 1650 pseudo-incorporation illustrates what appears to be a type of object shift (see also Kareem  
 1651 2016). Bare objects follow manner adverbs such as *xêra* ‘fast’ or *šipirzeyi* ‘messily’, as in  
 1652 (22)-(24), which we take provisionally to mark the left edge of *vP*.<sup>8</sup>

1653 (22) min šipirzeyi sêw=**im** xward  
 1 SG.pro messily apple=1 SG.CL eat.PST  
 1654 ‘I did apple-eating messily.’

1655 Similarly, the nominal part of a light verb construction has to follow the manner adverb,  
 1656 thus showing the same restriction in terms of adverb positioning.

1657 (23) a. Azad Sasan=**î** xrap siza da.  
 Azad Sasan=3 SG.CL badly punishment give.PST  
 1658 ‘Azad punished Sasan badly.’  
 1659 b. \*Azad Sasan=**î** siza xrap da.  
 Azad Sasan=3 SG.CL punishment badly give.PST  
 1660 ‘Azad punished Sasan badly.’ (Kareem 2016:153)

1661 On the other hand, typical DP arguments of the verb surface to the left of the manner  
 1662 adverbial, as shown in (24):

1663 (24) a. min sêw-ek=**im** šipirzeyi xward  
 1 SG.pro apple-a=1 SG.CL messily eat.PST  
 1664 ‘I ate an apple messily.’

<sup>8</sup>The possibility of modification of these bare nouns, as in (i), suggests that the effect in (22) is pseudo-incorporation, and not noun incorporation (Massam 2001; Kornfilt 2003; Öztürk 2005).

(i) min šipirzeyi sêw-î gewre=**m** xward  
 1 SG.pro messily apple-EZ big=1 SG.CL eat.PST  
 ‘I ate big apple(s) messily.’ (I did big-apple eating messily.)

See also Baker (2015: p. 148, fn.36), who reports something similar for Adıyaman Kurdish.



1665           b. min      sêw-eke=**m**           šîpirzeyî xward  
                   1SG.pro apple-the=1SG.CL messily eat.PST  
 1666           ‘I ate the apple messily.’

1667           The precise landing site of this DP movement remains an open issue. It depends in part  
 1668           on what is done with the relative height of certain heads in the clause; while (4b) represents  
 1669           one possibility, crucial evidence for evaluating that particular sequence of heads versus  
 1670           alternatives is difficult to come by. For example, putting  $\mathcal{O}$  in a high position would require  
 1671           object shift target a position above Tense (cf. Kareem 2016). Since the central claims of  
 1672           this book do not hinge on the exact positioning of these projections we will leave these  
 1673           questions open.<sup>9</sup>

### 1674 3.3 Subjecthood

1675           The informal notion of *subject* is typically associated with a cluster of properties in Kur-  
 1676           dish.<sup>10</sup> We focus on these here to pave the way for discussions in the next two chapters  
 1677           (Chapter 5 in particular), where diagnostics are needed to determine whether a particular  
 1678           argument behaves like a typical subject or not.

1679           Most of the relevant diagnostics have been identified and tested in Central and Northern  
 1680           Kurdish varieties (e.g., Matras 1992, 1997; Haig 1998, 2008; Akkuş 2020). The four we will  
 1681           outline here (cf. Haig (2008)) are (i) constituent order, (ii) control of coreferential deletion,  
 1682           (iii) binding of reflexives, and (iv) passivization.<sup>11</sup>

1683           In all tenses, the pragmatically neutral order of constituents is SV, or SOV. This is  
 1684           shown for a transitive clause in (25) and (26) (note that the indexation in the perfective is  
 1685           also indicative of grammatical relations).

1686           (25) a. minal-ek-an kiça-k-an de-bîn-in.  
                   child-the-PL girl-the-PL IND-see.PRS-PL  
 1687                   ‘The children see the girls.’

1688           b. kiça-k-an minal-ek-an de-bîn-in.  
                   girl-the-PL child-the-PL IND-see.PRS-PL  
 1689                   ‘The girls see the children.’

1690           (26) a. minal-ek-an kiça-k-an=**yan**      bînî.  
                   child-the-PL girl-the-PL=3PL.CL see.PST  
 1691                   ‘The children saw the girls.’

<sup>9</sup>What is important is that the positioning of these functional heads,  $\mathcal{O}$  and T, relative to each other is fixed in both aspects/stems, as evinced by the clitic placement and second-position effects. Anticipating the discussion in Chapter 6, this argues against an approach in which probes are located in different positions in the different aspects.

<sup>10</sup>Here and below we will sometimes depart from the typological classification of roles (S, A, O) and typically use terms like *Subject*, *Direct Object*, and so on. When more detailed breakdowns are required, we will be more precise about this and use *A* for *Agent*, or *Subject of a transitive* etc.

<sup>11</sup>See also Sedghi (2010); Jügel and Samvelian (2020) for similar tests applied to Persian.

1692 b. kiça-k-an minal-ek-an=**yan** bînî.  
 girl-the-PL child-the-PL=3PL.CL see.PST  
 1693 ‘The girls saw the children.’

1694 Which is to say, the highest argument in the clause is expected to behave as a typical subject.  
 1695 Northern Kurdish and Zazaki varieties have subject-oriented invariable reflexive, *xwe*,  
 1696 *xu*, *xo*, ‘self’ depending on the language. This is illustrated in (27) for Northern Kurdish,  
 1697 which illustrates that in those varieties the reflexive is sensitive to the syntactic relations A,  
 1698 O and S, not to the surface case.

1699 (27) a. cotkar kur-î di-şîn-e mal-a xwe.  
 farmer.DIR boy-OBL DUR-send.PRS-3SG house-EZ.F self  
 1700 ‘The farmer<sub>i</sub> is sending the boy<sub>k</sub> to his<sub>i/\*k</sub> house.’ (Haig 1998:29)  
 1701 b. cotkar-î kur şand mal-a xwe.  
 farmer-OBL boy.DIR send.PST.3SG house-EZ.F self  
 1702 ‘The farmer<sub>i</sub> sent the boy<sub>k</sub> to his<sub>i/\*k</sub> house.’ (Haig 1998:30)

1703 However, in Sorani varieties, the reflexive is not subject oriented, as shown in (28) and  
 1704 (29), where the reflexive and the pronoun, respectively, in the IO are bound by the direct  
 1705 object.<sup>12</sup>

1706 (28) a. ême gişt minalê-k nîşanî bo xo=y de-de-yn.  
 1PL.pro every child-a show to self=3SG.CL IND-give.PRS.1PL  
 1707 ‘We show every child to himself (e.g., in a mirror).’  
 1708 b. ême gişt minalê-k=man nîşanî bo xo=y da.  
 1PL.pro every child-a=1PL.CL show to self=3SG.CL give.PST  
 1709 ‘We showed every child to himself (e.g., in a mirror).’  
 1710 (29) a. ew her minalê-k nîşanî bo dayk-î xo=y de-de-t.  
 3SG.pro every child-a show to mother-EZ self=3SG.CL IND-give.PRS-3SG  
 1711 ‘He shows every child<sub>i</sub> to his<sub>i</sub> mother.’  
 1712 b. ew her minalê-k=î nîşanî bo dayk-î xo=y da.  
 3SG.pro every child-a=3SG.CL show to mother-EZ self=3SG.CL give.PST  
 1713 ‘He showed every child<sub>i</sub> to his<sub>i</sub> mother.’

1714 Due to these properties, reflexive binding is not useful as a subjecthood diagnostic in  
 1715 Sorani.

1716 Another test that has been employed is conjunction reduction (cf. *subject ellipsis* of  
 1717 [Zaenen et al. 1985](#)), which allows coreferential deletion across coordinate clauses. A ver-  
 1718 sion of the conjunction deletion is sometimes used to differentiate *syntactic* ergativity from

<sup>12</sup>The GK speakers prefer to use *gişt* for ‘every’ though they also accept the more commonly used form *her/hamu* in SSK.

1719 *morphological* ergativity. For example, Doron and Khan (2012) show that in morphologi-  
 1720 cally ergative languages such as Aramaic, when two clauses are coordinated, and the second  
 1721 clause has subject agreement but no overt subject, the argument crossreferenced by the erga-  
 1722 tive suffix of the first clause is treated as subject by the predicate of the second clause, as  
 1723 shown in (30a). In Aramaic, an overt pronoun must be used to allow the absolutive-marked  
 1724 argument to be interpreted as the subject of the same clauses, (30b). On the other hand, in  
 1725 syntactically ergative languages, in a configuration corresponding to (30a), the argument  
 1726 cross-referenced by the absolutive suffix is treated as subject of the second clause (Dixon  
 1727 1994).

1728 (30) Aramaic: Christian Barwar (Doron and Khan 2012:12)

- 1729 a. ʔε-brata muxl-a-la ʔu zil-la.  
 the-girl feed.PFV-ABS.3FS-ERG.3FS and leave.PFV-ERG.3FS  
 1730 ‘She fed the girl and left.’
- 1731 b. ʔε-brata muxl-a-la ʔu ʔay zil-la.  
 the-girl feed.PFV-ABS.3FS-ERG.3FS and she leave.PFV-ERG.3FS  
 1732 ‘She fed the girl and she (the girl) left.’

1733 The Kurdish languages have already been demonstrated to show morphological ergativ-  
 1734 ity (see e.g., Matras 1992, 1997; Haig 1998). Applying the clausal coordination diagnostic  
 1735 to Sorani, (31), further confirms the morphological ergativity of Kurdish and subjecthood  
 1736 of the oblique marked arguments or arguments indexed with an MP oblique clitic.

- 1737 (31) a. ew kich-aka=y bînî u roysht.  
 3SG.pro girl-the=3SG.CL see.PST and leave.PST  
 1738 ‘She (the mother) saw the girl and she (the mother) left.’
- 1739 b. ew kich-aka=y bînî u ew roysht.  
 3SG.pro girl-the=3SG.CL see.PST and 3SG.pro leave.PST  
 1740 ‘She (the mother) saw the girl and she (the girl) left.’

1741 Thus, in morphologically ergative languages, this test allows the subject of a coordi-  
 1742 nated clause to be deleted under identity with the subject of a preceding clause. Examples  
 1743 in (32) through (34) illustrate this possibility with different combinations of intransitive and  
 1744 transitive predicates, in different tenses and different constructions, including non-canonical  
 1745 subject constructions (see chapter 5 for more discussion).

- 1746 (32) a. kur-eke sew-eke=y bînî û kewt.  
 child-the apple-the=3SG.CL see.PST.3SG and fall.PST.3SG  
 1747 ‘The boy saw the apple and fell.’
- 1748 b. kur-eke kewt û sew-eke=y bînî.  
 child-the fall.PST.3SG and apple-the=3SG.CL see.PST.3SG  
 1749 ‘The boy fell and saw the apple.’

- 1750 (33) a. kes sereshe=y ne-bu û ne-kewt.  
 noone headache=3SG.CL NEG-PST.COP and fall.PST.3SG  
 1751 ‘Noone had a headache and fell.’
- 1752 b. kes ne-kewt û sereshe=y ne-bu.  
 noone NEG-fall.PST.3SG and headache=3SG.CL NEG-PST.COP  
 1753 ‘Noone fell and had a headache.’
- 1754 (34) a. min kewt-im û sereshe=m he-bu.  
 I fall.PST-1SG and headache=1SG.CL exist-PST.COP  
 1755 ‘I fell and had a headache (afterwards).’<sup>13</sup>
- 1756 b. min sereshe=m he-bu û kewt-im.  
 I headache=1SG.CL exist-PST.COP and fall.PST-1SG  
 1757 ‘I had a headache and fell.’
- 1758 c. min kew-im û sereshe=m he-ye.  
 I fall.PRS-1SG and headache=1SG.CL exist-PRS.COP  
 1759 ‘I fall and have a headache (always).’
- 1760 d. min sereshe=m he-ye û kew-im.  
 I headache=1SG.CL exist-PRS.COP and fall.PRS-1SG  
 1761 ‘I (always) have a headache and fall.’
- 1762 e. min sereshe=m he-ye û sêw de-xo-m.  
 I headache=1SG.CL exist-PRS.COP and apple IND-eat.PRS-1SG  
 1763 ‘I (always) have a headache and eat apple(s).’

1764 Passivization is used as another diagnostic for the subjecthood of the A argument of  
 1765 transitive clauses in both aspects (e.g., Matras 1997; Haig 1998; Akkuş 2020). The fact that  
 1766 the internal argument can be raised to become the grammatical subject is an indication that  
 1767 in the active counterpart, the A argument functions as a grammatical subject that (informally  
 1768 speaking) gets “demoted” in the passive.

- 1769 (35) a. ême ewan=**man** kuşt.  
 1PL.pro them=1PL.CL kill.PST  
 1770 ‘We killed them.’
- 1771 b. ewan kuj-ra-n.  
 3PL.pro kill.PRS-PASS.PST-3PL  
 1772 ‘They were killed.’

1773 Thus, to the extent that an argument behaves like the sole argument of a passivized transi-  
 1774 tive, it is Subject-like.

<sup>13</sup>For pragmatic reasons, the verb *girt* ‘get, hold, take’ is more preferred in the context of (34a) instead of *hebu*.

1775 Finally– and this point looks directly ahead to our analysis of indexation– the subject in  
1776 a typical clause is the only element that is agreed with in the morphosyntactic sense, as in  
1777 (36) (see §4.2 for more discussion):

- 1778 (36) a. *min chend xanu-yek=(\*yan) de-bîn-im.*  
1779 1 SG.pro several house-a=3 PL.CL IND-see.PRS-1 SG  
‘I see several houses.’  
1780 b. *min chend xanu-yek=im bînî-(\*n).*  
1781 1 SG.pro several house-a=1 SG.CL see.PST-3 PL  
‘I saw several houses.’

1782 These examples show how an overt Direct Object may not be accompanied by a co-indexed  
1783  $\varphi$  element (36a); the 1s Subject, conversely must be conindexed in this way.

1784 Our interest in diagnostics of this type is two-fold. First (as we noted above), they will  
1785 allow us to examine various clauses with what are often called ‘non-canonical’ subjects,  
1786 and determine how the syntax of these clauses compares with that of others. The second  
1787 point of interest is that while the properties noted above typically are found only with a  
1788 single argument in a clause, this is not always what is found. That is, in the typical case  
1789 the highest argument in the clause is the one that is available for conjunction reduction,  
1790 and it is also the one that enters into MS agreement. But there are some clauses in which  
1791 these properties can come apart; for example, in Chapter 5 we will present clauses in which  
1792 two arguments enter MS agreement. It is for this reason that we have been careful to refer  
1793 ‘subject’ as an informal notion, and to identify the properties of typical subjects at a finer  
1794 grain.<sup>14</sup>

### 1795 3.4 Summary

1796 In this chapter, we have introduced the syntactic and morphological foundations for the  
1797 analysis of Sorani alignment in the following chapters. The key ideas are as follows:

1798 **Indexation** The basic clausal syntax of the language involves a number of functional  
1799 heads. Of those, the heads *T* and *Obl* in particular will play an important role in the in-  
1800 dexation mechanics, as they will interact with the arguments lower in the clause in multiple  
1801 ways (Agree or Move).

1802 **Alignment split** Perfective clauses– i.e. those with  $\text{𐎧𐎠𐎢}$ – produce case assignment differ-  
1803 ences from imperfectives.

1804 **Subjecthood** A set of diagnostics for subjecthood will play a role at various points later in  
1805 this work, as they will allow us to identify which argument in the clause exhibits the prop-  
1806 erties that are associated with typical subjects. These properties typically cluster together,

<sup>14</sup>Jügel and Samvelian (2020) put forth a very similar idea for Experiencer constructions in Persian, arguing that they involve two subjects (or arguments) with two realizations of agreement in the sentence. For discussion of this point in SOrani see sections 2-4 of Chapter 5; and for Persian, section 6.3 of that chapter.

1807 but as we will see in Chapter 5, certain predicates and passives illustrate configurations in  
1808 which these properties come apart.

1809 Against this background, we now turn to the investigation of the indexation patterns in  
1810 Sorani varieties, starting with transitive clauses and gradually extending it to other con-  
1811 structions.

1814 In this chapter we develop an analysis of the indexation patterns of Standard Sorani Kurdish  
 1815 (SSK) transitive clauses, and extend it to Garmiani Kurdish, as well as some other languages  
 1816 that provide pertinent points of comparison.

1817 The basic pattern to be explained in SSK involves a mirror-image effect in how ar-  
 1818 guments are indexed. Imperfective clauses like (1a) show MP agreement on the verb that  
 1819 indexes the subject, and an MP clitic that indexes the object. In perfectives like (1b) the  
 1820 same kinds of indexers appear but their relation to arguments is reversed: the subject is  
 1821 indexed by the MP clitic, while the object is indexed by MP agreement:

1822 (1) SSK Indexation

- 1823 a. (ême) de=**yan** bîn-în  
 1 PL.pro IND=3PL.CL see.PRS-1 PL  
 1824 ‘We see them.’
- 1825 b. (ême) de=**man** bînî-n  
 1 PL.pro PROG=1 PL.CL see.PST-PL  
 1826 ‘We were seeing them.’

1827 Our analysis of these patterns is based on the idea that MS operations (agreement, clitic  
 1828 movement) target specific case features in the way that is outlined in Chapter 2. In summary  
 1829 form, the alignment split between imperfective and perfective clauses sets things in motion,  
 1830 by determining a difference in case assignment. The case differences are reflected in in-  
 1831 teractions with the movement and agreement specifications on the two heads T and  $\mathcal{O}$  that  
 1832 were introduced in the last chapter. Finally, morphological realization of  $\varphi$  bundles is also  
 1833 sensitive to case features; because forms may underspecified with respect to the features  
 1834 they realize, each of the  $\varphi$  elements in (1) realizes more than one case.

1835 In derivational sequence, the steps that we have just outlined are as follows:

1836 (2) *Order*:

- 1837 Creation of basic clause (perfective or not)  $\Rightarrow$   
 1838 Case assignment  $\Rightarrow$   
 1839 (Clitic-) Movement and Agreement operations  $\Rightarrow$   
 1840 PF-realization of  $\varphi$  bundles

1841 The different components of the analysis are introduced in the course of the next few sec-  
1842 tions. To preview this in slightly more detail, the fully fleshed-out analysis involves the  
1843 following factors; these are framed with respect to SSK, our primary focus (the details  
1844 differ slightly for GK, in ways that will become clear later in this chapter).

1845 **The perfective/imperfective split.** Clauses in Sorani Kurdish differ in terms of whether  
1846 they have a perfective head or not. The presence or absence of the head  $\text{𐎧𐎠𐎡}$  (Asp[+perf])  
1847 determines the alignment properties of the clause through its effects on Case assignment.

1848 **Case assignment.** This is affected by presence/absence of  $\text{𐎧𐎠𐎡}$ :

- 1849 • In clauses without  $\text{𐎧𐎠𐎡}$ , the cases assigned in a transitive clause is Dir(ect)/Obl(ique);  
1850 on our analysis, Nominative/Accusative.
- 1851 • When  $\text{𐎧𐎠𐎡}$  is present, the cases assigned are Obl(ique)/Dir(ect): on our analysis, Erga-  
1852 tive/Objective.

1853 For the purposes of this introduction, we are employing familiar names for the cases that are  
1854 at play: *Nominative*, *Accusative*, and so on. As discussed in Chapter 2, these labels should  
1855 be understood as shorthand for a featural decomposition that is introduced in §4.4.

1856 **Grammatical relations.** Subjects behave differently from other arguments in terms of how  
1857 they interact with MS operations; in particular:

- 1858 • A co-indexed  $\varphi$ -element obligatorily cooccurs with Subjects; this is the result of MS  
1859 Agreement.
- 1860 • On the other hand,  $\varphi$ -elements and internal arguments (DOs, IOs, etc.) are in com-  
1861plementary distribution; these  $\varphi$  elements are clitics that have undergone MS Clitic  
1862 Movement.

1863 An additional difference is that Subjects can be *pro*-dropped, unlike other arguments.

1864 In §4.4 we will suggest that reference to grammatical relations can be eliminated in  
1865 defining these properties, and offer an analysis that encodes it with a case feature. If this is  
1866 correct, then this factor can be merged with (i.e. subsumed under) the prior one.

1867 **Movement and Agreement.** Two heads, Tense and  $\mathcal{O}$ , operate in ways that are sensitive  
1868 to the Case features of arguments beneath them:

- 1869 • The head T
  - 1870 – MS Agrees with Nominative arguments; and
  - 1871 – MS Clitic Moves Objective clitics.
- 1872 • The head  $\mathcal{O}$ 
  - 1873 – MS Agrees with Ergative arguments; and



1874

– MS Clitic Moves Accusative clitics.

1875 There is a general property of this system that is important to emphasize: Agreement **occurs**  
1876 **only once per head** with either T or  $\emptyset$ ; there are no instances in which one of these heads  
1877 agrees with more than one argument. On the other hand, **multiple clitic movements** may  
1878 be triggered by either of these heads.

1879 **Morphological realization.** At PF,  $\varphi$ -elements are realized in a way that is determined by  
1880 their case features:

- 1881 •  $\varphi$  bundles that are Nominative or Objective are realized as MP agreement.
- 1882 •  $\varphi$  bundles that are Ergative or Accusative are realized as MP clitics.

1883 Each of these factors is elaborated on in detail in the sections to come. After looking  
1884 in more detail at indexation patterns in 4.1, we look at subject/object asymmetries in 4.2;  
1885 these play a key role in determining whether an argument indexer is an MS clitic or the  
1886 result of MS Agreement. Section 4.3 introduces the case features that play a central role  
1887 in the analysis. With these at hand, section 4.4 shows how case-targeting MS operations  
1888 driven by probes on the T and  $\emptyset$  heads derive the SSK indexation system. Section 4.5  
1889 looks at indexation in Garmiani Kurdish, which differs from SSK in terms of how case is  
1890 assigned in imperfective clauses. Section 4.6 looks at some loci of variation that are found  
1891 in the system by bringing additional languages into the discussion. Finally, 4.7 turns to the  
1892 realization of  $\varphi$  bundles, and shows how the analysis accounts for the syncretism between  
1893 Direct and Oblique cases that produces the mirror-image effect that we began with. Section  
1894 4.8 offers concluding remarks.

#### 1895 4.1 Indexation and alignment

1896 Starting with the form of  $\varphi$  elements in Sorani, (3) shows personal pronouns, along with  
1897 the argument indexers that are central to much of the discussion to come. The latter are typ-  
1898 ically labelled “(oblique) clitics” and “(verbal affix) agreement” in the literature. Recalling  
1899 the discussion of Chapter 2, we call these *MP clitics* and *MP agreement* respectively, to  
1900 highlight the idea that this way of referring to  $\varphi$  elements is based on their morphophono-  
1901 logical properties, not the MS operation (MS Agreement or MS Clitic Movement) that  
1902 affects them.

1903 In terms of clausal distribution, the MP clitics show the complex second position type  
1904 of placement described in Chapter 3 (3.2) above; the MP agreements, on the other hand,  
1905 are always attached to Tense. Following standard practice, the MP Agreement markers in  
1906 (3) are divided into Sets 1 and 2, reflecting differences in the form that are manifested in  
1907 imperfectives and perfectives, respectively:

1908 (3) Pronouns and  $\varphi$  elements (SSK, based on [Kareem 2016:95](#))

1909	p/n	pronoun	MP Clitic	MP Agreement	
				Set 1 (imperf.)	Set 2 (perf.)
	1s	min	=(i)m	-(i)m	-(i)m
	2s	to	=(i)t	î(t)/-∅/-e	ît
	3s	ew	=î	ê(t)/-a(t)/-∅	∅
	1p	ême	=man	-îñ	-îñ
	2p	êwe	=tan	-(i)n	-(i)n
	3p	ewan	=yan	-(i)n	-(i)n

1910 These  $\varphi$  elements are related to arguments in ways that are determined by the aspectually-  
 1911 conditioned alignment split (see Haig 2008; Legate 2017; Atlamaz and Baker 2016, 2018;  
 1912 Akkuş 2020) that we introduced in earlier chapters. In the imperfective, an MP clitic cross-  
 1913 references the O argument (direct object), while the MP agreement cross-references the  
 1914 A argument (subject of a transitive). On the other hand, in the perfective aspect, the MP  
 1915 clitic cross-references the A argument, while the MP agreement indexes the O argument, as  
 1916 illustrated in (4):

1917 (4) SSK transitive patterns

	MP-CLITIC		MP-AGREEMENT
1918 IMPERFECTIVE	DO		Subject
		×	
PERFECTIVE	Subject		DO

1919 Some imperfective examples with transitive verbs are shown in (5). We follow the con-  
 1920 vention introduced earlier according to which MP clitics are **boldfaced** and shown attached  
 1921 to their hosts with =; MP agreement forms are *italicized* and shown with a hyphen -. In  
 1922 these examples, the clitic indexes the DO, while the Subject is cross-referenced on the verb:

1923 (5) Imperfective

- 1924 a. (min) de=**yan** be-*m*  
 1 SG.pro IND=3 PL.CL take.PRS-1 SG  
 1925 ‘I will take them.’
- 1926 b. (ême) de=**yan** bîñ-*îñ*  
 1 PL.pro IND=3 PL.CL see.PRS-1 PL  
 1927 ‘We see them.’
- 1928 c. (ewan) na=**man** bîñ-*in*  
 3 PL.pro NEG=1 PL.CL see.PRS-PL  
 1929 ‘They don’t see us.’

1930 In the perfective aspect, on the other hand, the indexation pattern is reversed, such that the  
 1931 MP clitic goes with the Subject, while the MP agreement indexes the Object:<sup>1</sup>

<sup>1</sup>Some sources on SSK report the reverse order of MP agreement and MP clitics on the verb when both of these morphemes surface there, as in (6a). There appears to be a great deal of variation across (and possibly within) varieties on this point.

- 1932 (6) Perfective  
 1933 a. (ême) xward=**man**-in  
 1 PL.pro eat.PST=1 PL.CL-PL  
 1934 ‘We ate them.’  
 1935 b. (ême) de=**man** bînî-n  
 1 PL.pro PROG=1 PL.CL see.PST-PL  
 1936 ‘We were seeing them.’  
 1937 c. (ême) ne=**man** de-bînî-n  
 1 PL.pro NEG=1 PL.CL PROG-see.PST-PL  
 1938 ‘We were not seeing them.’

1939 Intransitive subjects are consistently cross-referenced by MP agreement in both aspects.  
 1940 This is illustrated in (7) and (8) for unaccusative and unergative predicates, respectively, in  
 1941 both imperfective and perfective aspects.<sup>2</sup>

- 1942 (7) a. (ême) de-kew-în  
 1 PL.pro IND-fall.PRS-1 PL  
 1943 ‘We fall.’  
 1944 b. (ême) kewt-în  
 1 PL.pro fall.PST-1 PL  
 1945 ‘We fell.’  
 1946 (8) a. (ême) de-kok-în  
 1 PL.pro IND-cough.PRS-1 PL  
 1947 ‘We cough.’  
 1948 b. (ême) kok-în  
 1 PL.pro cough.PST-1 PL  
 1949 ‘We coughed.’

1950 The indexation in passives patterns like intransitives, in that the underlying object raised  
 1951 to become the grammatical subject is co-indexed with MP agreement on the verb, as shown  
 1952 in (9b).

<sup>2</sup>This property is not as strong/stable in Iranian languages with overt oblique case marking, out of which oblique clitics are considered to have grammaticalized (e.g., Holmberg and Odden 2004; Paul 2011; Kareem 2016; Jukil 2015; Gharib and Pye 2018). Don Stilo (p.c.) informs us that for example, among the younger generation of Vafsi (a variety of Tati, spoken in Iran) speakers, there is an increasing trend in using oblique subjects for intransitive verbs, especially copulas, (i), in both aspects, while direct case was the accepted form in older generations. Similar trends hold in some Wakhi and Zazaki varieties (Bashir 1986; Akkuş 2020).

- (i) tawan yey dœsde=yam ke ...  
 we.OBL one group=COP.1PL SUB  
 ‘We are a (whole) group who...’ (A10.30; Don Stilo p.c.)

As we will see in Chapter 5, intransitive predicates in Sorani have Oblique Subjects; but this is in both aspects, as these are of the *Non Canonical Subject* type.

- 1953 (9) a. (ême) ewan=**man** kušt.  
 1 PL.pro 3 PL.pro=1 PL.CL kill.PST  
 1954 ‘We killed them.’  
 1955 b. (ewan) kuj-ra-n (le layen ême-we).  
 3 PL.pro kill.PRS-PASS.PST-3 PL (from side 1 PL.pro-ITER)  
 1956 ‘They were killed (by us).’

1957 While SSK does not have overt case marking on DPs, the traditional analysis of Iranian  
 1958 morphosyntax, which is implemented and extended below, is that MP-clitics are– or are  
 1959 related to– Oblique arguments (Subjects in the perfective; Objects in the imperfective),  
 1960 while MP-agreement is related to Direct arguments (Subjects of transitive imperfectives,  
 1961 perfective Objects, and Subjects of typical intransitives); see e.g., Haig 2008; Holmberg  
 1962 and Odden 2004; Karimi 2012. We will make this point precise in 4.3, after looking first at  
 1963 the MS status of the  $\varphi$  elements in different clauses.

#### 1964 4.2 Argument indexers and their corresponding arguments

1965 The discussion to this point has outlined which argument a particular indexer is related to.  
 1966 Moving on to *how* the indexer and the argument are related, we see a pattern– well-known  
 1967 in the typological literature on Iranian (e.g., Jügel 2009)– that appears to show sensitivity  
 1968 to grammatical relations. In particular, Subjects **require** the presence of a corresponding  
 1969  $\varphi$  element: while there might be *pro* drop (and hence only the  $\varphi$  element), every overt  
 1970 subject is obligatorily accompanied by an indexer. Conversely, DO and IO arguments and  
 1971 corresponding  $\varphi$  elements **never** cooccur. Taken at face value, Subject indexers behave like  
 1972 MS Agreement, while (Indirect) Object indexers behave like MS clitics, i.e. like pronouns  
 1973 (see Öpengin 2019:247 for the same view). We will proceed on the assumption that this is

1974 in fact correct; that is:<sup>3</sup>

- 1975 (10) a. Overt DP arguments always co-occur with subject indexers.  
1976       ⇒ Subject  $\varphi$  elements are the product of MS Agreement.
- 1977       b. DO/IO indexers never co-occur with an overt DP argument.  
1978       ⇒ DO/IO indexers are MS clitic pronouns.

1979       An important consequence of this view is that MS operations and their MP reflexes  
1980 can be *mismatched*, since the realization of  $\varphi$  indexers as MP agreement or MP clitic form  
1981 does not correlate directly with these cooccurrence patterns. In particular, MP clitics are the  
1982 result of MS Agreement in the perfective, where the agent clitic must always occur with a  
1983 coindexed argument, as in (11a); in the imperfective, however, MP clitics are MS pronouns,  
1984 and the object clitic may not cooccur with a DP or full pronoun (11b-11c).

1985       To make the main points of the exposition stand out, we have put the elements to con-  
1986 centrate in boxes in the examples in this section (cf. also Fn. 3). In summary form, the  
1987 pattern in perfective clauses is as follows:

- 1988 (11) a. to    de=\*(t)       bînî-[t]n    → *the A MP-clitic must appear*  
          2SG.pro PROG=2SG.CL see.PST-1PL  
1989       ‘You were seeing us.’
- 1990       b. ême    ewan=(\*yan) de-bîn-în       → *the O MP-clitic can't appear*  
          1PL.pro 3PL.pro=3PL.CL IND-see.PRS-1PL  
1991       ‘We see them.’

---

<sup>3</sup> There appears to be some variation on some of these points. In the variety [Samvelian \(2007a:268, 12\)](#) discusses, the past transitive allows the ‘direct affectee’ NP to be optionally doubled by a personal verbal ending, as in (i):

- (i) dû nâme =t       be kurdî   nûsî-(n)  
     two letter=2SG.CL in Kurdish write.PST-PL  
     ‘You wrote two letters in Kurdish.’

Based on the definitions above, this variety appears to allow clitic doubling (or object agreement). [Kareem \(2016\)](#) reports that in his variety, a plural object in the perfective can be doubled with an agreement marker; at the same time, it appears that speakers prefer not having the agreement marker. As these effects do not occur for the speakers we have worked with, we will not investigate them further in this book.

In the Sorani varieties we have investigated, it is possible to have a full DP as a topic in the left periphery, with a prosodic break between the dislocated DP and the rest of the clause, both in the imperfective and perfective, as exemplified in (ii). This is a type of Left-dislocation that we will appear at various parts of the book.

- (ii) a. kitêb-ek-an, (min) hemu roj-êk de=yan       xwên-im.  
     book-the-PL 1PL.pro every day-a IND=3SG.CL read.PRS-1SG  
     ‘The books, I read them every day.’
- b. kitêb-ek-an, (min) dwene   xwênd-in=im.  
     book-the-PL 1PL.pro yesterday read.PST-3PL-1SG.CL  
     ‘The books, I read them yesterday.’

1992 c. min hemu roj-êk [John]=[\*(î)] de-bîn-im. → (same as b)  
 1SG.pro every day-a John=3SG.CL IND-see.PRS-1SG  
 1993 ‘I see John every day.’

1994 The same sort of mismatch is found with MP agreement, which also corresponds to  
 1995 either MS agreement or MS movement. It appears with a coindexed Subject in the im-  
 1996 perfective (12a), but in complementary distribution with with an Object in the perfective  
 1997 (12b-12c) (cp. Samvelian 2007a; Jügel 2009). Note crucially that the imperfective (11b-  
 1998 11c) and the perfective (12b-12c), would be grammatical also with just the MP-clitic and  
 1999 MP-Agr, respectively, without the associated DP or full pronoun.

2000 (12) a. [to] de=man bîn-\*(î) → the A MP-Agr must appear  
 2SG.pro IND=1PL.CL see.PRS-2SG

2001 ‘You see us.’

2002 b. to [ême]=t de-bîni-\*(î)n → the O MP-Agr can’t appear  
 2SG.pro 1PL.pro=2SG.CL PROG-see.PST-1PL

2003 ‘You were seeing us.’

2004 c. min [sêw-ek-an]=im bîni-\*(n) → (same as b)  
 1SG.pro apple-the-PL-1SG.CL see.PST-PL

2005 ‘I saw the apples.’

2006 Among other things, the examples (11b-11c) and (12b-12c) provide evidence against  
 2007 the idea that we are dealing with (typical) *clitic doubling* for the object (for a recent overview,  
 2008 see Anagnostopoulou (2017); also Anagnostopoulou 2006; Harizanov 2014; Kramer 2014;  
 2009 Preminger 2019; Yuan 2021 for discussion). The pattern is in a sense the exact opposite of  
 2010 clitic doubling: object indexers are **never** accompanied by an overt DP.<sup>4</sup>

2011 In the same way that Subjects of transitives are always indexed by an MP agreement  
 2012 or an MP clitic, Subjects of intransitives are invariably accompanied by an indexer as well.  
 2013 Because of how the alignment system works, this element is almost always an MP agree-  
 2014 ment:

2015 (13) a. [ême] de-kew-\*(î).  
 1PL.pro IND-fall.PRS-1PL

2016 ‘We fall.’

<sup>4</sup>Generally speaking, two different approaches can be found in the literature regarding the complementarity in arguments (and in DOs in the context of Sorani Kurdish): one line of research treats such complementarity to reflect an operation (whether movement or agreement) that applies only with *pro* arguments (e.g., McCloskey and Hale 1984, Stump 1984 for Irish). A second line of approach— essentially what we propose here— takes this complementarity to be a case of incorporation of the deficient pronoun into the verb or preposition (e.g., Anderson 1982, Ackema and Neeleman 2003, Brennan 2009 for Irish, Arregi and Hanink 2022 for Washo, Yuan 2018 for Aleut). In §6.3.1, we provide a number of arguments that demonstrate that an ‘agreement with *pro* arguments’ analysis is problematic for the Iranian varieties that we have investigated.

2017 b.  $\boxed{\hat{e}me}$  kewt- $\boxed{*(\hat{in})}$ .  
 1 PL.pro fall.PST- 1 PL  
 2018 ‘We fell.’

2019 The qualification to *almost* always takes into account a small set of intransitives (noted  
 2020 earlier in a footnote) that take Ergative subjects in both aspects; we examine these and  
 2021 additional non-canonical subject constructions in Chapter 5.

2022 In summary, Subjects in Sorani are agreed with across the board. In the case of DOs  
 2023 (and other arguments that we will see later), there is never a DP or pronoun that cooccurs  
 2024 with an indexer; we thus take DO  $\varphi$  elements to be moved clitics. These patterns attested in  
 2025 SSK are summarized in (14).

2026 (14) Summary of SSK patterns

2027 a. Imperfective

**SSK: Imperfective**

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
A	NOM	MP agr on T	MS Agree
S	NOM	MP agr on T	MS Agree
O	ACC	MP clitic on $\mathcal{O}$	MS Clitic Movement

2029 b. Perfective

**SSK: Perfective**

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
A	ERG	MP clitic on $\mathcal{O}$	MS Agree
S	NOM	MP agr on T	MS Agree
O	OBJ	MP agr on T	MS Clitic Movement

2031 These patterns are derived by specifying the MS operations associated with T and  $\mathcal{O}$  to  
 2032 target arguments with specific case features; we turn to these next.

2033 **4.3 Case features**

2034 Our analysis of argument indexation is centered on Case Targeting: as explained in Chapter  
 2035 2, this is the idea that MS operations (Agree/Move) may be specified to seek arguments  
 2036 with particular case features. In Sorani, the heads that bear Case-Targeting probes are T  
 2037 and  $\mathcal{O}$ . Due to this case-sensitivity, whether or not a particular MS operation applies in a  
 2038 given clause interacts with the alignment system, which is determined lower in the clause by  
 2039 the presence or absence of Asp[+perf]. Importantly, it will be seen that the MS operations  
 2040 work in a way that does not make reference to the alignment split per se. Rather, the MS

2041 operations apply whenever an argument with the correct case specification appears in T or  
2042  $\mathcal{O}$ 's search domain.<sup>5</sup>

2043 In this and the following section we will provide an analysis of Sorani transitive clauses  
2044 that makes crucial use of Case Targeting. Case Targeting will also be important in Chapter  
2045 5, where we will see that several phenomena that have been described and analyzed as being  
2046 determined by the imperfective/perfective split are instead driven by case features.

2047 One aspect of the analysis that bears emphasizing is that the idea that the same morpho-  
2048 logical surface form might correspond to distinct abstract cases (Legate 2008; Akkuş 2020).  
2049 In terms of how  $\varphi$  elements are realized, Sorani shows only two distinct forms for indexers:  
2050 viz., what we have called MP Agreement and MP clitics above. If our analysis is correct,  
2051 these two surface forms correspond to arguments with four distinct abstract cases. The ways  
2052 in which arguments are indexed— whether they interact with T or  $\mathcal{O}$ , and other properties—  
2053 reveal case distinctions that are not made in surface form. Along similar lines, Legate 2008  
2054 has argued that the so-called “Absolutive” in fact corresponds to distinct cases: Nominative  
2055 case on an intransitive subject, but Accusative case on a transitive object. Akkuş (2020)  
2056 provides a similar argument for “oblique” in several Iranian languages, and suggests that it  
2057 corresponds to (at least) three distinct cases: Ergative case on the A argument in the perfec-  
2058 tive, and, in addition, structural and non-structural case on the O or S argument depending  
2059 on the language.

2060 In Chapter 2 we motivated an approach to case decomposition according to which labels  
2061 like ‘Nominative’, ‘Accusative’, ‘Ergative’ etc. are shorthand for feature complexes. As  
2062 stressed there, this kind of approach provides an explanation for why certain cases may  
2063 behave in the same way for certain operations, but at the same time be distinct for others.  
2064 For example, Hindi Ergative and Dative are both ignored by MS agreement, an effect that we  
2065 analyzed by having these cases share the feature [+obl]. However, in spite of this similarity  
2066 for the syntax, they are distinct for the purposes of morphological realization, which reflects  
2067 their difference with respect to the feature [ $\pm$ subj].

2068 Our look at indexation in SSK in the previous section identifies four distinct behav-  
2069 iors, which are defined by (i) whether an argument undergoes MS clitic movement, or is  
2070 agreed with; and (ii) whether the head effecting the MS operation is T or  $\mathcal{O}$ . Our proposal  
2071 for analyzing this system in terms of Case Targeting operations posits a feature system  
2072 that is defined by these two binary possibilities. In particular, we will employ the features  
2073 [ $\pm$ subj(ect)] and [ $\pm$ obl(ique)], whose correlates with (i-ii) are stated in (15):

2074 (15) subject:

- 2075 a. +: Arguments are targets of MS Agreement.  
2076 b. -: Arguments are targets of MS clitic movement.

2077 (16) oblique:

---

<sup>5</sup>In the case of MS Clitic Movement, the argument that is affected must also be a clitic (and not e.g. a full DP), since (by definition) it is only such arguments that are moved.

As noted in the text, MS Operations apply when they can, as determined by case features. When they do not apply— that is, when there is no feature for them to interact with— nothing happens. We discuss this view of probing in broader context in Chapter 6.



- 2078 a. +: The argument interacts with  $\mathcal{O}$   
2079 b. -: The argument interacts with T

2080 There is much that could be said about the nature of these features, both in terms of  
2081 how they relate to the distinctions made in more morphologically-oriented studies of case  
2082 decomposition, and in terms of how they relate to syntactic theories of case assignment  
2083 more generally (and configurational theories of case in particular). Since our goal in this  
2084 and the following chapter is to show how the SSK indexation system is driven by case–  
2085 not how arguments are assigned case features in the first place– we will hold off on a more  
2086 general discussion of what our approach entails until Chapter 6. For present purposes, we  
2087 will concentrate on two aspects of (15) that provide context for the analysis of indexation,  
2088 one concerning each of  $[\pm\text{subj}]$  and  $[\pm\text{obl}]$ .

2089 **Subjecthood** The first concerns how the  $[\pm\text{subj}]$  relates to subjecthood, a notion that  
2090 is discussed in Chapter 2. What we have in mind here with the  $[\pm\text{subj}]$  feature is a way  
2091 of reducing distinctions that are often described in terms of grammatical function to case  
2092 features. In short form, it is only arguments that possess  $[\text{+subj}]$  that are targets of MS  
2093 Agreement. In many types of clauses, this argument is the one that would be called the sub-  
2094 ject according to the kinds of diagnostics associated with grammatical function. However,  
2095 this is not always the case; in Chapter 5 we will analyze certain clauses that appear to have  
2096 two  $[\text{+subj}]$  arguments, and hence two arguments that can be agreed with. This type of ef-  
2097 fect provides evidence that MS agreement is driven by the feature  $[\text{+subj}]$ , not grammatical  
2098 function per se.<sup>6</sup>

2099 **Obliqueness** Regarding  $[\pm\text{obl}]$ , the idea is to take a distinction that is central to the study  
2100 of Iranian languages– between Oblique and Direct arguments– and interpret it in terms of  
2101 which functional head an argument interacts with. As we will see below, this feature also  
2102 allows for the forms of indexers to be analyzed in a way that involves underspecification;  
2103  $[\text{+oblique}] \varphi$  bundles are realized as MP clitics, whether they are Ergative or Accusative;  
2104 and  $[\text{-oblique}] \varphi$  bundles are realized as MP Agreement, whether they are Nominative or  
2105 Objective. On the MS side of things, it is important to note that the oblique/direct distinction  
2106 is sometimes employed in different ways in different analytical traditions and theories. For  
2107 example, in case system employed by Halle and Vaux (1998), the direct cases are Nomina-  
2108 tive and Accusative (and Ergative), to the exclusion of oblique Genitive, Locative, Dative,  
2109 and Instrumental. Similarly, the Hindi case system presented in Chapter 2 gives us no reason  
2110 to think that Accusative behaves differently from Nominative, such that the  $[\pm\text{obl}]$  feature  
2111 used there has a different distribution with respect to case labels than it does in SSK.

2112 With these clarifications at hand, the four cases that we posit for SSK are shown in (17):

2113 (17) Sorani cases

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<sup>6</sup>It also follows from this that accounts in which MS operations do not make reference to case features– by e.g. targeting only the highest argument in a clause of an argument– are problematic. Recall sect 2.4, and see sect. 6.2 for additional discussion.

		‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
2114	<b>subj(ect)</b>	+	+	-	-
	<b>obl(ique)</b>	-	+	+	-

2115 While there are affinities between how the case labels are used in (17) and how they are used  
2116 in other descriptive and theoretical traditions, it bears repeating that it is the features that are  
2117 relevant in defining MS and MP behavior, not the labels. For this reason, caution is required  
2118 with labels that have attendant connotations. For example, Ergative is often associated with  
2119 agentivity. However, it will become clear in the next chapter that in Sorani, an association  
2120 between Ergative as defined in (17) and agentivity is untenable.<sup>7</sup> It will also become clear  
2121 that Ergative arguments are in fact found in **both** aspects, not just the perfective; this point  
2122 has several important theoretical consequences as well.

2123 As we noted earlier, we do not have a specific theory of how case features are assigned  
2124 in mind. This means that the features [ $\pm$ subj] and [ $\pm$ obl] are for us a kind of abstraction:  
2125 they partition Sorani DPs in a way that is required for the patterns of indexation that they  
2126 show. For present purposes, our goal is to use the four-way distinction produced by (17)  
2127 works, with the idea being that it must eventually be linked to a theory of case assignment  
2128 that the capacity to make at least the distinctions in (17). Since there is no such link at  
2129 present, it would be compatible with our approach to rename or redefine these features, or  
2130 to show that they map onto distinctions made in different theories of case; we will discuss  
2131 this point in greater detail in Chapter 6.

2132 By way of summary, our proposal is that for transitive clauses, the mechanics of case  
2133 assignment produce the distribution of cases that is shown in (18):

2134 (18) Cases by Aspect in SSK

	ASPECT	Subject	Direct Object
2135	imperfective	[+subj,-obl]	[-subj, +obl]
	perfective	[+subj,+obl]	[-subj, -obl]

2136 In short form, imperfective clauses have [+subj,-obl] Nominative subjects and [-subj,+obl]  
2137 Accusative DOs. On the other hand, perfective clauses have [+subj,+obl] Ergative subjects  
2138 and [-subj, -obl] Objective DOs. Typical intransitive Subjects are Nominative [+subj,-obl]  
2139 in both aspects.

2140 We will now illustrate how these case features are referred to by MS agreement and  
2141 movement operations to produce the Sorani indexation system.

<sup>7</sup>Some further examples; Woolford (1997) also uses the label ‘Objective,’ yet in a different sense, mainly as a type of structural case assigned/checked in Spec,AgrO and associated with object agreement, if a language has it. Anand and Nevins (2006) use ‘Objective’ case as an indicator of specificity and/or animacy. These examples help to explain why it is important to focus on features and how they are defined, not the short-hand labels for cases.

2142 **4.4 Mechanics of indexation in Standard Sorani Kurdish (SSK)**

2143 We are now in a position to link the different components of the analysis that are introduced  
 2144 above. To repeat the facts to be accounted for, SSK shows a split in which the imperfective  
 2145 has Nominative subjects and Accusative DOs, while perfectives show Ergative/Objective. In  
 2146 the imperfective aspect, as in (19a), an MP clitic cross-references the O argument, whereas  
 2147 the MP agreement cross-references the A argument. In the perfective aspect, (19b), we  
 2148 observe the reversal of the relations: the MP clitic cross-references the A argument, whereas  
 2149 the MP agreement cross-references the O argument.

- 2150 (19) a. (ême) de=**yan** bîn-în  
 2151 1 PL.pro IND=3 PL.CL see.PRS-1 PL  
 2152 'We see them.'  
 2153 b. (ême) bînî=**man-in**  
 2154 1 PL.pro see.PST=1 PL.CL-PL  
 2155 'We saw them.'

2156 The last section makes a four-way distinction in cases, based on [ $\pm$ subj] and [ $\pm$ obl].  
 2157 As discussed there, these features are defined by whether an argument is clitic-moved or  
 2158 agreed with, and which head it interacts with. Stated for each of T and  $\emptyset$ , the four indexing  
 2159 behaviors seen in SSK are as in (20):

- 2158 (20) Properties of heads
- |      |    |             |   |                                     |                      |
|------|----|-------------|---|-------------------------------------|----------------------|
| 2159 | a. | T           | { | AGREES with [+subj, -obl] arguments | (Target: Nominative) |
|      |    |             | { | MOVES [-subj, -obl] clitics         | (Target: Objective)  |
| 2160 | b. | $\emptyset$ | { | AGREES with [+subj, +obl] arguments | (Target: Ergative)   |
|      |    |             | { | MOVES [-subj, +obl] clitics         | (Target: Accusative) |

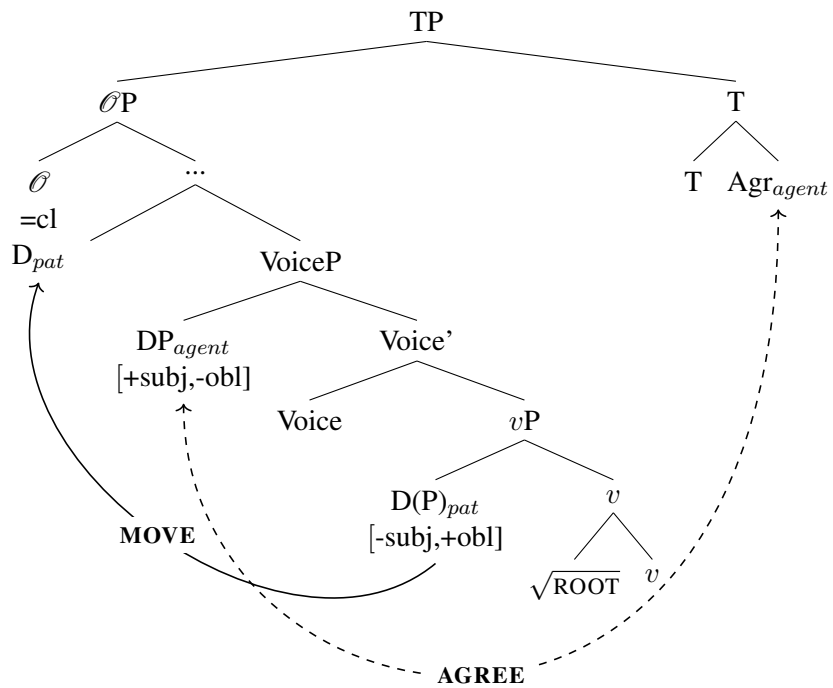
2161 The realization of  $\varphi$  bundles is independent of MS operation; in particular:

- 2162 (21) Realization of  $\varphi$  bundles
- 2163 a. [+obl] bundles are realized as MP Clitics; and
- 2164 b. [-obl] bundles are realized as MP Agreement.

2165 The specifications in (20) produce the four different indexation patterns to be accounted  
 2166 for. We now turn to pertinent illustrations of how the analysis works. In the trees to come,  
 2167 we use *dashed lines* to refer to the *Agree* relation, and the **solid lines** to indicate **movement**.

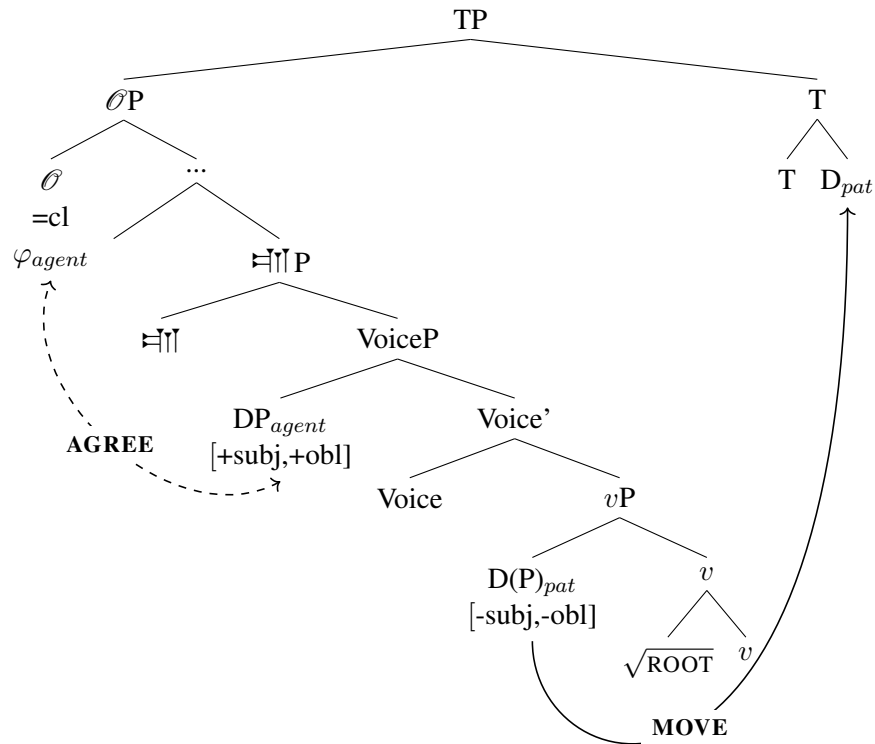
2168 Starting with the imperfective, the A argument receives Nominative [+subj, -obl] case,  
 2169 while the O argument is assigned Accusative [-subj, +obl]. By (20), Tense agrees with  
 2170 the [+subj, -obl] Subject, whereas  $\emptyset$  attracts the [+obl] clitic to it. These operations are  
 2171 illustrated in the tree in (22):

2172 (22)



2173 In the perfective, the cases assigned to the Subject and DO are different. Here, the  
 2174 transitive subject receives Ergative [+subj,+obl] case, while the DO is assigned Objective [-  
 2175 subj, -obl]. Since the Subject bears [+subj,+obl] features, it is agreed with by  $\emptyset$ ; and Tense  
 2176 attracts the [-subj,-obl] pronominal clitic. The tree in (23) illustrates:

2177 (23)



2178 We show the output of MS Agreement as an MP-Agr morpheme with the features of  
 2179 the agreed-with argument in (22) and as a clitic in (23). While this is descriptively correct–  
 2180 the Subjects features are realized as an MP Agreement morpheme in the imperfective, and  
 2181 as an MP Clitic in the perfective– these representations are oversimplified in ways that are  
 2182 discussed further in 4.7.

2183 To this point, we have a working analysis of how the arguments in transitive clauses are  
 2184 associated with indexers on T and Ø. A key aspect of the SSK system is that the imper-  
 2185 fective and perfective aspects are mirror images with respect to how Subjects and Objects  
 2186 behave. In the analysis that we have developed, this pattern results from two independent  
 2187 factors: first, the case features that are assigned to these arguments; and second, the way  
 2188 in which MS operations on T and Ø are specified. These factors are independent of one  
 2189 another. As a first illustration of this point, we turn next to Garmiani Kurdish. This variety  
 2190 differs in case assignment from SSK, but is identical to it in terms of how T and Ø Agree  
 2191 with and Clitic-Move arguments.

#### 2192 4.5 Indexation and alignment in Garmiani Kurdish (GK)

2193 Garmiani Kurdish (GK; introduced in Chapter 3) shows Nominative/Accusative in the im-  
 2194 perfective paired with an Ergative/Accusative (‘double oblique’) perfective. Aside from  
 2195 this difference in case assignment from SSK, the indexation system of the language is de-

2196 terminated by the same Case Targeting analysis that we posit for SSK above. In particular, the  
 2197 mechanics analysis of SSK should produce *two oblique clitics* if both A and O arguments  
 2198 are Oblique– and this is exactly what is found in GK. In summary form:

2199 (24) Summary of Garmiani patterns

2200 a. Imperfective (same as SSK)

**GK: Imperfective**

	<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
2201	A	NOM	MP agr on T	MS Agree
	S	NOM	MP agr on T	MS Agree
	O	ACC	MP clitic on $\emptyset$	MS Clitic Movement

2202 b. Perfective

**GK: Perfective**

	<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
2203	A	ERG	MP clitic on $\emptyset$	MS Agree
	S	NOM	MP agr on T	MS Agree
	O	ACC	MP clitic on $\emptyset$	MS Clitic Movement

2204 We first introduce the indexation and alignment patterns in GK and then analyze the  
 2205 system with the tools introduced above. For starters, Garmiani has the slightly different set  
 2206 of argument indexers seen in (25):<sup>8</sup>

2207 (25) Forms of pronouns, argument indexers (Garmiani)

	<b>p/n</b>	<b>pronoun</b>	<b>MP Clitic</b>	<b>MP Agreement</b>	
				Set 1 (Present)	Set 2 (Past)
2208	1s	min	=(i)m	-(i)m	-(i)m
	2s	to	=(i)t	î(t)/-y(t)	ît
	3s	ew	=î	ê(t)	∅
	1p	ême	=man	-în/yn	-în/yn
	2p	êwe	=tan	-(i)n	-(i)n
	3p	ewan	=yan	-(i)n	-(i)n

2209 In the imperfective aspect, Garmiani behaves identically to SSK in showing Dir/Obl  
 2210 alignment, which we take to be Nominative/Accusative in terms of the case system outlined  
 2211 earlier:

2212 (26) (ewan) sêw-ek-an de-bîn-in.  
 3PL.pro apple-the-PL IND-see.PRS-PL  
 2213 ‘They see the apples.’

<sup>8</sup>Generally speaking, GK shows minor morphophonological and lexical differences from SSK. We put these to the side since they do not play a role in the discussion to come.

2214 (27) (min) **de=yan** **bîn-im**.  
 1 SG.pro IND=3 PL.CL see.PRS-1 SG  
 2215 ‘I see them.’

2216 It is in the [+perfective] system that Garmiani differs from SSK. There, instead of show-  
 2217 ing the “mirror-image” Obl/Dir that is found in SSK, Garmiani instead shows Obl/Obl  
 2218 alignment, with both the Subject and the Object  $\varphi$ -elements both realized in clitic form.  
 2219 This is shown for a variety of clitic hosts in (28)-(31):

2220 (28) a. **ême** **bînî=yan=man**  
 1 PL.pro see.PST=3 PL.CL=1 PL.CL  
 2221 ‘We saw them.’

2222 b. **ême** **ne=yan=man** **bînî**  
 1 PL.pro NEG=3 PL.CL=1 PL.CL see.PST  
 2223 ‘We didn’t see them.’

2224 (29) a. **ême** **e=tan=man** **bînî**  
 1 PL.pro PROG=2 PL.CL=1 PL.CL see.PST  
 2225 ‘We were seeing you.pl.’

2226 b. **ême** **ne=tan=man** **e-bînî**  
 1 PL.pro NEG=3 PL.CL=1 PL.CL PROG-see.PST  
 2227 ‘We were not seeing you.pl.’

2228 (30) a. (min) **çareser=iyan=im** **kird**  
 1 SG.pro treatment=3 PL.CL=1 SG.CL do.PST  
 2229 ‘I treated them.’

2230 b. (ême) **çareser=iyan=man** **ne-kird**  
 1 PL.pro treatment=3 PL.CL=1 PL.CL NEG-do.PST  
 2231 ‘We didn’t treat them.’

2232 (31) (min) **maç=yan=im** **kird**  
 1 SG.pro kiss=3 PL.CL=1 SG.CL do.PST  
 2233 ‘I kissed them.’

2234 Schematized along the lines of what we presented for SSK in (4), Garmiani shows the  
 2235 alignment split and  $\varphi$  marking pattern in (32):

2236 (32) Garmiani alignment/indexation

	MP-CLITIC	MP-AGREEMENT
IMPERFECTIVE	DO	Subject
PERFECTIVE	DO; Subject	–

2238 In terms of the case-feature distinctions introduced above for SSK with [ $\pm$ subj] and  
 2239 [ $\pm$ obl], our proposal is that GK makes the three way distinction that is shown in (33):

2240 (33) GK cases

		‘Nominative’	‘Ergative’	‘Accusative’
2241	<b>subject</b>	+	+	-
	<b>oblique</b>	-	+	+

2242 Explained in terms of (33), the double-oblique pattern seen in the perfective derives from  
 2243 there being no distinct Objective case assigned to DOs in this variety; all DOs receive  
 2244 Accusative.

2245 Although GK and SSK differ in terms of case features, they are identical with respect to  
 2246 how the indexation of arguments functions– with the exception that Objective indexation is  
 2247 simply absent in GK. For example, GK shows the same patterns of indexer/overt argument  
 2248 cooccurrence as SSK, which were shown in (11)-(13). Thus, the indexer of the A (and  
 2249 S) argument patterns like syntactic agreement, regardless of whether it is realized as MP  
 2250 agreement in the imperfective, (34a), or MP clitic in the perfective, (34b).

2251 (34) a. to e=**man** bîn-\*(î) → *the A MP-Agr must appear*  
 2SG.pro IND=1PL.CL see.PRS-2SG

2252 ‘You see us.’

2253 b. to e=**man**=\*(it) bînî → *the A MP-clitic must appear*  
 2SG.pro PROG=1PL.CL=2SG.CL see.PST

2254 ‘You were seeing us.’

2255 Also as in SSK, the indexer of the O argument in GK is realized as an MP clitic and patterns  
 2256 like a pronoun in both imperfective and perfective, in that it does not cooccur with an overt  
 2257 argument. Stated in the other direction, a DO argument cannot co-occur with the indexer,  
 2258 (35). (Note that the ungrammaticality is not due to e.g., the clitic being on the DO; the co-  
 2259 occurrence leads to ungrammaticality regardless of where the clitic appears). As with SSK,  
 2260 we interpret this as showing that DO indexers are themselves arguments, i.e. clitics:<sup>9</sup>

<sup>9</sup>Moreover, as in SSK, such pronominals in GK can resume a CLLD-ed object in both aspects in the form of an MP clitic, (i).

- (i) a. kitêb-ek-an, (min) hemu roj-êk de=**yan** xwên-im.  
 book-the-PL I every day-a IND=3SG.CL read.PRS-1SG  
 ‘The books, I read them every day.’  
 b. kitêb-ek-an, (min) dwene xwênd=**yan**=im.  
 book-the-PL 1SG.pro yesterday read.PST-3PL.CL-1SG.CL  
 ‘The books, I read them yesterday.’



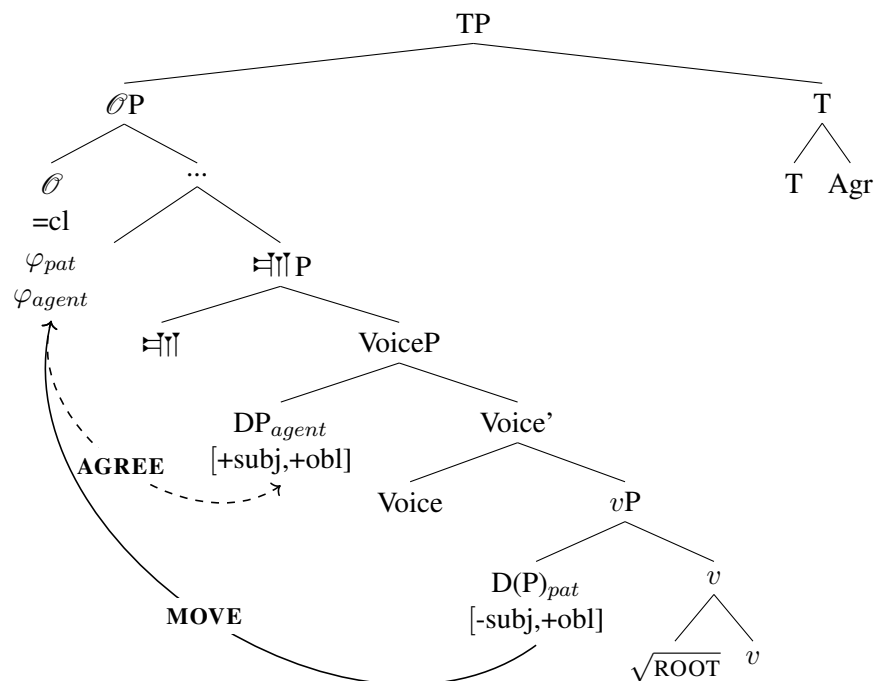
- 2261 (35) a. to  $\boxed{\hat{e}me} = \boxed{(*man)} = \mathbf{it}$  e-bî $\hat{n}$   $\rightarrow$  *O MP-clitic can't appear*  
 2262 2SG.pro us=1PL.CL=2SG.CL PROG-see.PST  
 'You were seeing us.'
- 2263 b.  $\hat{e}me$   $\boxed{ewan} = \boxed{(*yan)}$  e-bî $\hat{n}$ - $\hat{in}$   $\rightarrow$  *O MP-clitic can't appear*  
 1PL.pro them=3PL.CL IND-see.PRS-1PL  
 2264 'We see them.'
- 2265 c. min  $\boxed{s\hat{e}w-ek-an} = \boxed{(*yan)} = \mathbf{im}$  bî $\hat{n}$   $\rightarrow$  (*same as a and b*)  
 1SG.pro apple-the-PL=3PL.CL=1SG.CL see.PST  
 2266 Intended: 'I saw the apples.'<sup>10</sup>

2267 In the imperfective, GK is identical to SSK for relevant purposes: it exhibits a Nomina-  
 2268 tive/Accusative pattern, with the Subject being MS agreed with, and the Object capable  
 2269 of undergoing MS clitic movement. In terms of (33), the A argument receives Nominative  
 2270 [+subj,-obl], while the DO receives Accusative [-subj,+obl]. The MS agreement/movement  
 2271 operations are sensitive to the case features in the way detailed for SSK: T agrees with the  
 2272 Subject, while  $\mathcal{O}$  attracts the [+obl] clitic to it; recall (22) above. The final step concerns  
 2273 the morphological realization of these  $\varphi$  bundles at PF. The [-obl]  $\varphi$  bundles are realized  
 2274 as MP agreement, whereas those that are [+obl] are realized as MP clitics. We will go into  
 2275 additional detail on the realization of MP clitic forms below.

2276 Moving on to the perfective aspect, the basic idea is that the Subject and DO are as-  
 2277 signed Ergative and Accusative respectively. Since the A argument bears [+subj,+obl] fea-  
 2278 tures, the  $\mathcal{O}$  head agrees with it. Furthermore (and differently from SSK),  $\mathcal{O}$  attracts the  
 2279 [-subj,+obl] pronominal clitic. The resulting double-oblique pattern is shown in (36).

<sup>10</sup>This sentence is grammatical in the reading *I saw their apples*. See §5.1.1 for an analysis of how possessives enter the indexation system.

2280 (36)



2281 The proposal that both the A and O arguments are [+oblique] in the perfective explains  
 2282 why they are both indexed in the position associated with  $\emptyset$ , as MP clitics, although they  
 2283 are derived via distinct MS operations. As will be seen below in 4.7, the Vocabulary in  
 2284 that we employ to spell out  $\varphi$  markers (with minor adjustments to account for phonological  
 2285 differences between SSK and GK seen in (25)) accounts for the distribution of MP clitic  
 2286 and MP agreement without further modification.

2287 In summary, GK differs from SSK in terms of case assignment; the rest of its properties  
 2288 follow from the system of probes that is operative in SSK, with a slight difference in the  
 2289 details of morphophonological realization being required for GK as well. In the next section,  
 2290 several other languages are analysed with an eye towards strengthening our understanding  
 2291 of cross-linguistic variation in alignment, and illustrating the possible loci of variation that  
 2292 our theoretical proposals posit.

#### 2293 4.6 Further comparative observations

2294 The analysis of Sorani that we have developed to this point is based on an interaction be-  
 2295 tween (i) the case features that are assigned to DPs, and (ii) the MS Agreement and Clitic  
 2296 Movement operations that are targeted at these. As we saw immediately above in our look  
 2297 at Garmiani, these components of the analysis operate independently of one another. In that  
 2298 particular case study, it was shown that Garmiani differs from Sorani in terms of case as-

2299 signment (it has Accusative objects in both aspects). However, it is identical to Sorani in  
2300 terms of how its probes operate.

2301 In this section we generalize further on the comparative front. In principle there are  
2302 several different ways in which languages could differ in their indexation systems. For ex-  
2303 ample, alignment splits could be defined in different ways. In SSK and GK, the alignment  
2304 split is determined by Aspect. Other splits are possible; see e.g., Woolford (2017) for re-  
2305 view. In addition to what determines the split, languages also differ in terms of how it is  
2306 manifested. As discussed in §2.2, alignment in some languages can be detected via overt  
2307 case marking, while in others via indexation (how arguments participate in the indexation  
2308 system); in still others both possibilities are available.

2309 When we shift attention to the specific claims of this work, it is clear that (at least) the  
2310 following two loci of variation must be taken into account:<sup>11</sup>

- 2311 • **CASE ASSIGNMENT** As we saw in GK, essentially the same as SSK except for having  
2312 ACC assigned in the perfective. More generally, languages may vary in their inven-  
2313 tories of case features. The range of variation here is determined by the theory of  
2314 possible case distinctions, which is a matter of ongoing discussion (see also Chapter  
2315 6).
- 2316 • **PROBE STRUCTURE** Sorani varieties have the interesting property that each of the  
2317 two heads active in the indexation– T and  $\theta$ – are probes for both MS Agreement and  
2318 MS Clitic Movement. The specific way in which these operations target case features  
2319 is what produces the mirror image effect that makes Sorani indexation so striking.  
2320 However, languages differ substantially as to how their probes operate. In principle  
2321 there are several ways in which such differences are manifested: for example, lan-  
2322 guages might differ in terms of (i) which probes are active; (ii) which cases they are  
2323 specified to target; or (iii) whether they effect MS agreement or MS Clitic Movement.

2324 In the remainder of this section we will provide some case studies that illustrate some  
2325 of the kinds of variation that we have identified along the lines sketched above. For conve-  
2326 nience, the individual studies are divided into those from Iranian languages, and then those  
2327 from other language families.

2328 **Within Iranian** Before we look at Iranian languages beyond Sorani, we will start with  
2329 the simple but sometimes overlooked point that it is also possible to look at the effects of  
2330 case differences within a single language; this can be done by looking at clauses that differ  
2331 from typical transitives due to another factor, such as passivization.

2332 Passivization of transitives in Sorani produces clauses that are basically intransitive. We  
2333 will examine passives here to illustrate how the change in case assignment in passivization  
2334 produces predictable effects, with the T probe behaving exactly as it does in other types of

---

<sup>11</sup>Another point of variation is in the morphological realization of  $\varphi$ -bundles, which might involve some contextual effects that vary across varieties.

2335 clauses. This introductory look at passivization also serves as a foundation for the look at  
 2336 more complex patterns in Chapter 5, which analyzes passivization of ditransitives.

2337 The basic data are as follows:

2338 (37) SSK

- 2339 a. (min) de=**yan** kuj-*im*  
 1 SG.pro IND=3 PL.CL kill.PRS-1 SG  
 2340 ‘I will kill them.’
- 2341 b. (ewan) de-kuj-rê-**n** (le layen min-ewe)  
 3 PL.pro IND-kill.PRS-PASS.PRS-3 PL (from side 1 SG.pro-ITER)  
 2342 ‘They will be killed (by me).’

2343 (38) Garmiani

- 2344 a. kûşt=**man**=**yan**  
 kill.PST=1 PL.CL=3 PL.CL  
 2345 ‘They killed us.’
- 2346 b. kuj-ra-**yn** (lâ layan ewan-ewe)  
 kill.PRS-PASS.PST-1 PL (from side them-ITER)  
 2347 ‘We were killed (by them).’

2348 As we identified above, case assignment in Sorani produces the following features on  
 2349 arguments for SSK and GK:

2350 (39) a. Cases by Aspect in SSK

	ASPECT	Subject	Direct Object
2351	imperfective	[+subj,-obl]	[-subj, +obl]
	perfective	[+subj,+obl]	[-subj, -obl]

2352 b. Cases by Aspect in GK

	ASPECT	Subject	Direct Object
2353	imperfective	[+subj,-obl]	[-subj, +obl]
	perfective	[+subj,+obl]	[-subj, +obl]

2354 In intransitives, Subjects are assigned Nominative [+subj,-obl] in both aspects. Passives  
 2355 behave like this as well– the sole argument of the passive of a transitive verb is assigned  
 2356 [+subj,-obl]. As such, it is the target of MS Agreement from T in both SSK and GK; which  
 2357 is to say, the mechanisms that apply in transitives produce the correct results in passives.  
 2358 This is a simple point but one that takes on further significance when alternatives to case  
 2359 targeting are assessed; see Chapter 6.

2360 Moving on to further types of variation, a number of Iranian languages that have been  
 2361 studied in the literature show interesting points of variation in comparison with Sorani. One  
 2362 kind of difference involves MS operations. While Central Kurdish varieties have both MS

2363 Agreement and MS Clitic Movement, it appears that some other varieties exhibit only the  
 2364 former.<sup>12</sup> A second difference (related to this one) concerns the number of probes; unlike  
 2365 Sorani, where both T and *Ø* are active, some other languages have only the T probe. In ad-  
 2366 dition, languages may differ with respect to how case marking is realized morphologically.  
 2367 We illustrate with Northern Kurdish and Zazaki (Atlamaz and Baker (2018); Akkuş  
 2368 (2020)), which are instructive on these points.<sup>13</sup> These languages manifest alignment via  
 2369 overt case marking.

2370 An initial observation is that the alignment patterns we have identified in Sorani based  
 2371 on patterns of argument indexation are evidenced in the (pronominal) case-marking pat-  
 2372 terns of Northern Kurdish varieties. For instance, Adıyaman Kurdish (Atlamaz and Baker  
 2373 2018) or Standard Zazaki (Todd 2002) pattern like SSK, in that they have DIR/OBL in the  
 2374 imperfective, and OBL/DIR in the perfective. Consider first Adıyaman Kurdish (AK) in  
 2375 (40):

- 2376 (40) Adıyaman Kurdish
- 2377 a. ez te dı-vun-ım-e.  
 1 SG.DIR 2 SG.OBL IND-see.PRS- 1 SG-PRS.COP  
 2378 ‘I see you.’
- 2379 b. mı ti di-yi  
 1 SG.OBL 2 SG.DIR see.PST-2 SG  
 2380 ‘I saw you.’ (AK, Baker and Atlamaz 2014:4a)
- 2381 c. ez rıvı-m  
 1 SG.DIR run.PST-1 SG  
 2382 ‘I ran.’ (AK, Baker and Atlamaz 2014:3a)
- 2383 d. Tı rvi-yi  
 2 SG.DIR run.PST-2 SG  
 2384 ‘You ran.’

2385 The alignment difference between imperfective and perfective can be seen in the forms of  
 2386 the pronouns. These differ in the imperfective (40a) and perfective (40b): the Subject is  
 2387 Direct *ez* in the former, and Oblique *mı* in the latter; the DOs change form as well, from  
 2388 Oblique *te* to Direct *ti*. Notably, agreement (which surfaces on the verb) is invariably with  
 2389 the Direct argument in the clause, just as it is in intransitives (40c,d).

2390 The same kind of pattern is found in Standard Zazaki, as shown in (41). In imperfective  
 2391 (41a) there is DIR/OBL case marking, with the Subject realized as *o* and the DO as *min*.  
 2392 The perfective flips to OBL/DIR, with *ey/ez* realizations of the pronominals. Once again,  
 2393 agreement in the clause targets only Direct arguments:

- 2394 (41) Standard Zazaki

<sup>12</sup>This state of affairs not that surprising given that the Northern varieties has retained the Old/Middle Iranian dependent-marking and lack clitics for the most part.

<sup>13</sup>The Zazaki languages are classified as Northwestern Iranian, and show many parallels with Kurdish.

- 2395 a. {Azado / o} min vinen-o.  
Azad.DIR / 3SG.DIR 1SG.OBL see.PRS-3M
- 2396 ‘{Azad / he} sees me.’ (Todd 2002:46: 90; with slight changes)
- 2397 b. ey ez di-yan  
3SG.OBL 1SG.DIR see.PAST-1SG
- 2398 ‘He saw me.’ (Todd 2002:62: 171)
- 2399 c. o vizer ame  
3SG.DIR yesterday come.PAST.3M
- 2400 ‘He came yesterday.’ (Todd 2002:62: 170)

2401 In short form, this alignment pattern, represented in Table 4.1, is the same as that of  
2402 SSK, as shown in Table 4.

	OBL	DIR
IMPERFECTIVE	DO	Subject
		×
PERFECTIVE	Subject	DO

Table 4.1: Alignment in Adıyaman Kurdish

2403 The realization of the alignment split is manifested in the forms of the pronominals.  
2404 Also different from Sorani is the fact that there is a single active probe in these languages,  
2405 T, which is specified to target Direct arguments:

2406 (42) T-probe in AK/Standard Zazaki: Agree with [-obl] DPs.

2407 Another type of variation is seen in Muş Kurdish (Gündoğdu 2011) and Mutki Zazaki  
2408 (Akkuş 2020). These varieties are like GK; they exhibit OBL/OBL alignment in the perfec-  
2409 tive.<sup>14</sup> In these varieties, double oblique realization is seen in pronominal (or DP) forms,  
2410 not in indexation patterns. We illustrate in (43) for Muş Kurdish (MK):

2411 (43) Muş Kurdish

- 2412 a. ez te di-bin-im  
1SG.DIR 2SG.OBL IMPF-see.PRS-1SG
- 2413 ‘I see you’ (Akkuş 2020:3a)
- 2414 b. ez ket-im  
1SG.DIR fall.PST-1SG
- 2415 ‘I fell down.’ (Gündoğdu 2011:77)
- 2416 c. min te dît  
1SG.OBL 2SG.OBL see.PST.3SG
- 2417 ‘I saw you.’ (Gündoğdu 2011:81)

<sup>14</sup>For more on the comparative aspect of double oblique across Iranian languages see e.g., Dorleijn 1996; Matras 1997, among others.

2418 As can be seen in (43c), the perfective verb shows default 3rd singular agreement. We  
 2419 take this to indicate that these varieties have a T probe specified like that in (42). Since case  
 2420 assignment produces OBL/OBL alignment in the perfective, T does not find a DP to agree  
 2421 with and is realized in default form.

2422 To summarize, the MK pattern, illustrated in Table 4.2 mirrors the Garmiani pattern  
 2423 represented in Table 32.

	OBL	DIR
IMPERFECTIVE	DO	Subject
		×
PERFECTIVE	Subject; DO	–

Table 4.2: Alignment in Muş Kurdish

2424 The surface patterns seen in MK differ from GK, though, due to the factors that we identified  
 2425 above.

2426 A point of similarity between Sorani and Kurmanji/Zazaki is that in the latter too, pas-  
 2427 sivation of transitives results in intransitive clauses, as such that T probes exactly as it does  
 2428 in other types of clauses, and targets the argument bearing [-obl] feature for MS Agreement.  
 2429 Examples are given in (44) and (45). The resulting agreement is realized on the T head, most  
 2430 clearly seen in (45b).

2431 (44) Standard Zazaki

- 2432 a. çenek-e non pot.  
 girl-OBL bread.DIR bake.PST  
 2433 ‘The girl baked the bread.’  
 2434 b. non (hete çenek-e ra) ame pot-ene.  
 bread (side girl-OBL from) come.PST bake-PTCP  
 2435 ‘The bread was baked by the girl.’

2436 (45) Muş Kurdish

- 2437 a. te min kuşt  
 2SG.OBL 1SG.OBL kill.PST.3SG  
 2438 ‘You killed me.’  
 2439 b. ez (ji ali-ye te) hat-im kuşt-in  
 1SG.DIR (PREP side-EZ 2SG.OBL) come.PST-1SG kill.PST-PTCP  
 2440 ‘I was killed (by you).’

2441 To summarize, we find within Iranian languages that behave both like SSK and like GK  
 2442 with respect to how their alignment works. At the same time, the languages in question (i)  
 2443 have different probes from SSK and GK; and (ii) realize the alignment split in different  
 2444 ways– by marking it on pronouns and noun phrases. On the latter point, there is clearly a  
 2445 parallel to be drawn between case-marking on noun phrases and what is done with oblique

2446 clitics in Sorani. The parallelism is not surprising given that pronominal clitics and case  
2447 marking are correlated with each other. In one approach, oblique clitics are analyzed his-  
2448 torically as the grammaticalization of the oblique cases as a result of the loss of overt case  
2449 marking (Holmberg and Odden 2004; Karimi 2010; Paul 2011; Kareem 2016; Jukil 2015;  
2450 Gharib and Pye 2018; a.o.). See also Coghill 2016 for another explicit parallelism between  
2451 oblique clitics (known as *L-suffixes*) in Neo-Aramaic and oblique case in Northern Kurdish  
2452 (see also Chapter 6 for the discussion of Neo-Aramaic). It is thus expected that we should  
2453 see that oblique clitics and oblique case marking have similar morphosyntactic distributions.  
2454 Most of the functions of pronominal clitics— such as possessor-marking in nominal struc-  
2455 tures, object referencing in the present tense, and subject agreement in the past transitive  
2456 clause— are functions historically associated with oblique case in Middle Iranian languages  
2457 (see Haig 2008; Korn 2008:159).<sup>15</sup>

2458 **In other languages** The first set of case-studies we have adduced in this chapter come  
2459 from other Iranian varieties, which provide appropriate comparisons and contrasts with our  
2460 primary focus on Sorani. And, as we saw in the initial case studies that we presented in  
2461 Chapter 2, a number of related points also arise in the analysis of Indo-Aryan languages. In  
2462 the rest of this section we will look briefly at two additional types of languages. In the first of  
2463 these, based on the Polynesian language Nukuoro, the argument for case-targeting interacts  
2464 with syntactic ergativity. In addition to illustrating how case-targeting might look in a lan-  
2465 guage with properties that are superficially quite distinct from Indo-Aryan and Indo-Iranian,  
2466 it provides a further example of how distinct MS behaviors may be marked identically in the  
2467 morphology. In the second example, drawn from Arabic varieties, we see a type of probe  
2468 that is completely indifferent to case features; the head bearing it agrees with whichever DP  
2469 is closest to it.

2470 Our first review is based on the analysis of Nukuoro (Polynesian Outlier, Micronesia)  
2471 developed in Drummond (2023a). This study proposes that three different probes (C, T, and  
2472 *v*) are active in the language, and that they are specified to target goals with distinct case  
2473 features. Crucially, these differences are not realized at the PF side: there is no case-sensitive  
2474 realization in Nukuoro.

2475 Nukuoro clauses are typically SV(O), and the language has no morphological expo-  
2476 nence of case on core arguments: Subjects and Objects are typically unmarked, (46). In  
2477 spite of this, Drummond argues that Nukuoro clause structure involves abstract ergative  
2478 and absolutive Case licensing, which restricts the distribution of DPs.<sup>16</sup>

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<sup>15</sup>This should not, however, mean that oblique clitics and overt case marked pronouns cannot cooccur in a single language. For instance, Hawrami has both oblique clitics and accusative case, although the latter is found only on definite singular NPs, thus functions more like a DOM marker (Holmberg and Odden 2004). It should also be noted that most researchers tend to equate clitics with ergative case, which we do not subscribe to. We follow Haig (2008:305) in taking the position that “the clitic system may in a sense be compensating for the lack of case by providing a rich system of agreement ...”

The fact that at least in some varieties both oblique clitics and case marking can co-occur has implications for an alternative approach which considers the clitics to be the inherited form, and considers their loss in Northern Kurdish to be the result of language contact, probably due to convergence with Armenian (Haig and Öpengin 2018:163).

<sup>16</sup>We report only the relevant parts of the study. Similarly, we represent a subset of probes and their differen-



- 2479 (46) a. De gauligi ne baguu.  
 DET child PFV fall  
 2480 ‘The child fell.’  
 2481 b. De gauligi ne anu.  
 DET child PFV dance  
 2482 ‘The child danced.’  
 2483 c. De gauligi ne gai de gahudi.  
 DET child PFV eat DET banana  
 2484 ‘The child ate the banana.’ (Drummond 2023a: (37))

2485 A central component of Drummond’s analysis is that case features play a role in syntac-  
 2486 tic ergativity: transitive subjects in Nukuoro may not undergo  $\bar{A}$ -movement from a regular  
 2487 transitive clause, (47a), while  $\bar{A}$ -movement of intransitive subjects and transitive objects  
 2488 may proceed unhindered from basic clauses, (47b)-(47c).

- 2489 (47) a. \*Go ai ne dau de beebaa nei?  
 FOC who PFV read DET book PROX  
 2490 ‘Who read this book?’  
 2491 b. Go ai ne gadagada?  
 FOC who PFV laugh  
 2492 ‘Who laughed?’  
 2493 c. Se aha a de hine laa ne dau?  
 INDF.SG what GEN.A DET woman DIST PFV read  
 2494 ‘What did the woman read?’ (Drummond 2023a: (1)-(2))

2495 Drummond proposes that Infl is the locus of ergative Case in Nukuoro, while  $v$  is the  
 2496 locus of absolutive Case.<sup>17</sup> On the other hand, the ergative extraction restriction, illustrated  
 2497 in (47), arises when the relative C head in Nukuoro carries a composite probe that carries  
 2498 two features, an  $\bar{A}$ -feature and [ABS] feature. This probe targets an argument that bears  
 2499 both of these features (Coon and Bale 2014; Paparounas and Akkuş To appear). Abstracting  
 2500 away from further details (e.g., concerning the case assignment mechanism), Drummond’s  
 2501 analysis holds that three functional heads are active probes, and they are specified differently  
 2502 in terms of the goal they target, as shown in (48).

- 2503 (48) a.  $v$  is specified for [ABS]  
 2504 b. T is specified for [ERG]  
 2505 c. C is specified for [ $\bar{A}$ , ABS]

---

tial properties, which are enough to our main point. In practical terms this means that we are putting to the side, for example, genitive case, which appears in the context of relativization. The reader is referred to Drummond (2023a) (as well as Drummond 2017, 2023b) for a fully worked out analysis of these additional phenomena.

<sup>17</sup>Building on a long literature, Drummond provides various pieces of evidence for these claims; see her paper for details.

2506 The system in Nukuoro receives a straightforward explanation in terms of case-feature  
 2507 distinctions adopted in this study with [ $\pm$ subj] and [ $\pm$ obl]: an implementation would be  
 2508 that Nukuoro makes the two way distinction that is shown in (49):<sup>18</sup>

2509 (49) Nukuoro cases

	‘Absolutive’	‘Ergative’
2510	<b>subject</b> +	+
	<b>oblique</b> -	+

2511 The probe on  $v$  is specified for [+subj,-obl] features, and T is specified for [+subj,+obl]  
 2512 features. While these cases are distinct for MS purposes, on the MP side, [+subj] is real-  
 2513 ized as zero ( $\emptyset$ ). Presumably, the relative C head would be specified for [+subj,-obl] and  
 2514 [ $\bar{A}$ ] features, and therefore be realized as  $\emptyset$ , with the  $\bar{A}$  feature not being referred to in  
 2515 morphological realization.

2516 This analysis of Nukuoro is a further illustration that case-targeting behavior can be  
 2517 revealed in a number of ways. While in Sorani (and many other languages) there are clear  
 2518 effects in overt morphological marking that it relates to, we were at pains above to stress that  
 2519 MS operations apply in a way that is blind to ultimate surface realization. Nukuoro, provides  
 2520 a further way of thinking about this: all of the cases in (49) are unrealized (or realized as  $-\emptyset$ ).  
 2521 But if Drummond’s analysis is correct, these case distinctions are nevertheless required for  
 2522 the syntax to function as it does.<sup>19</sup> Nukuoro is informative also from another perspective,  
 2523 in showing that the height of the argument (or the probe for that matter) is not a factor  
 2524 in which argument will be targeted by the probe. In this regard, it parallels the pattern in  
 2525 Sorani Kurdish.

2526 Moving ahead, an interesting comparison for the last case study comes from Arabic  
 2527 varieties (Semitic) that exhibit complementizer agreement, such as Hijazi, Jordanian and  
 2528 Sason Arabic. This phenomenon is instructive in showing that unlike the probes seen in the  
 2529 above illustrations, the C probe in these languages is not specified for certain case features.  
 2530 Thus, instead of targeting goals with particular case features, it interacts with the closest DP  
 2531 in its c-command domain.

2532 Before we proceed with the discussion, it is important to note that in contrast to Stan-  
 2533 dard Arabic, colloquial Arabic varieties lack overt case and mood markings on nouns and  
 2534 verbs, respectively. Only overt pronouns exhibit morphological case distinctions: nomina-  
 2535 tive pronouns referring to grammatical subjects normally surface as free-standing elements,  
 2536 whereas those with accusative, dative and genitive surface as bound pronouns that are at-  
 2537 tached to their assigners with different realizations (see e.g., Benmamoun 2000; Aoun et al.  
 2538 2010; Hallman 2018; Akkuş 2022a,b) unless they are focused.<sup>20</sup> This is illustrated in (50)

<sup>18</sup>Since we are only looking at two cases in the text, a single binary feature would suffice. We use two features here to anticipate extension of the system to other cases in the language.

<sup>19</sup>Genitive case, which Drummond also analyzes, is sometimes realized overtly.

<sup>20</sup>Following the long literature on Arabic, we take it that Nominative case is assigned by T to the grammatical subject, Dative case by an Applicative head to the indirect object, and Accusative case by Voice/ $v$  to the direct object.

2539 from Sason Arabic (SA). For example, a grammatical subject bears Nominative case, (50a),  
 2540 while the Direct Object carries Accusative case, (50b), and the Indirect Object Dative case,  
 2541 (50c). The same pattern holds for Hijazi Arabic (HA), as seen in (51).<sup>21</sup>

2542 (50) Sason Arabic

2543 a. *Nominative*

2544 **iya** faqaz-e.  
 3F.pro run.PFV-3F

2545 ‘She ran.’

2546 b. *Accusative*

2547 **iyu** adaṣ=**a**.  
 3M.pro see.PFV.3M-3F.pro

2548 ‘He saw her.ACC.’

2549 c. *Dative*

2550 **iyu** ada=**lla** axpeys.  
 3M.pro give.PFV.3M-3F.pro bread

2551 ‘He gave her.DAT bread.’

2552 (51) Hijazi Arabic

2553 a. *Nominative, Accusative*

2554 **hiyya** ṣaaf-at=**hum**.  
 3F.pro see.PFV.3F-3PL.pro

2555 ‘She.NOM saw them.ACC.’

2556 b. *Dative*

2557 **hiyya** ʔaʕT-at=(**la**)**hum** xamsa jawaaʔiz.  
 3F.pro give.PFV-3F=3PL.pro five prizes

2558 ‘She gave them.DAT five prizes.’

2559 Against this backdrop, let us now turn to the discussion of complementizer agreement.  
 2560 The examples in (52) demonstrate that in Hijazi Arabic, the complementizer may agree  
 2561 with the embedded subject.<sup>22</sup>

2562 (52) *C agreement with Nominative-marked subject*

2563 a. ʔa-twaqqaʕ inna-ha (hiyya) ʔakal-at t-tuffaaḥ-a.  
 1SG-believe.IPFV that-3SG.F she eat.PFV-3SG.F the-apple-SG.F

2564 ‘I believe that she ate only the apple.’

<sup>21</sup>Modulo the possibility of dropping the *la*- part of the dative clitic. Our Hijazi Arabic consultants, Hassan Munshi and Muhammad Alzaidi, report that the forms with *la* feel more archaic to them, and is associated with older speakers.

<sup>22</sup>Hijazi allows complementizer agreement only with pronominal arguments, and not full NPs - therefore these examples involve pronominal arguments.

2565 b. ?a-twaqqaŋ inna-na (nihna) ?akal-na t-tuffaaħ-a.  
 1SG-believe.IPFV that-1PL we eat.PFV-1PL the-apple-SG.F  
 2566 ‘I believe that we ate the apple.’

2567 Interestingly, the complementizer agreement is not limited to a relation between the  
 2568 C head and the embedded subject. When there is a DP above the embedded subject, the  
 2569 complementizer agrees with that argument. (53) illustrates examples in which the embedded  
 2570 direct object, which bears Accusative case, is fronted. In such configurations, C agrees with  
 2571 the fronted object (be it a CLLD-ed object, (53a), or a focused object, (53b)) rather than the  
 2572 subject.

2573 (53) *C agreement with Accusative-marked direct object*

2574 a. ?a-twaqqaŋ {innu / inna-ha / \*inna-hum} hiyya, shaaf-oo-ha  
 1SG-believe.IPFV {that / that-3SG.F / that-3PL} her see.PFV-3PL-it.F  
 2575 humma.  
 they

2576 ‘I believe that *her*, they saw *her*.’

2577 b. ?a-twaqqaŋ {innu / inna-ha / \*inna-hum} BASS HIYYA, shaaf-u  
 1SG-believe.IPFV {that / that-3SG.F / that-3PL} only her see.PFV-3PL  
 2578 humma.  
 they

2579 ‘I believe that ONLY HER, they saw.’

2580 A similar pattern holds when an indirect object, which bears dative case, is fronted.  
 2581 (54a) provides the baseline example in which a ditransitive clause, (51b), is placed in an  
 2582 embedded clause. In (54b), the pronominal indirect object ‘them’ is CLLD-ed, and may  
 2583 trigger agreement on the C head. Similarly, a contrastively focused IO that is fronted in (54c)  
 2584 also results in the corresponding agreement while an attempt to agree with the embedded  
 2585 subject is ungrammatical.

2586 (54) *C agreement with Dative-marked indirect object*

2587 a. ?a-twaqqaŋ innu (hiyya) ?aŋT-at=(la)hum xamsa jawaa?iz.  
 1SG-believe.IPFV that 3F.pro give.PFV-3F=3PL.pro five prizes  
 2588 ‘I believe that she gave them five prizes.’

2589 b. ?a-twaqqaŋ {innu / innu-(la)hum / \*inna-ha} humma,  
 1SG-believe.IPFV {that / that-3PL / that-3SG.F} them  
 2590 ?aŋT-at=(la)hum xamsa jawaa?iz.  
 give.PFV-3F=3PL.pro five prizes

2591 ‘I believe that *them*, she gave *’em* five prizes.’

2592 c. ?a-twaqqaŋ {innu / innu-(la)hum / \*inna-ha} BASS HUMMA,  
 1SG-believe.IPFV {that / that-3PL / that-3SG.F} only them



2629 chapter, standard analyses of Sorani indexers make a distinction between what are called  
 2630 “Set 1” and “Set 2” versions of this, as shown in (55):

2631 (55) Forms of  $\varphi$  elements

	p/n	pronoun	MP Clitic	MP Agreement	
				Set 1 (imperfective)	Set 2 (perfective)
	1s	min	=(i)m	-(i)m	-(i)m
	2s	to	=(i)t	î(t)/-∅/-e	ît
2632	3s	ew	=î	ê(t)/-a(t)/-∅	∅
	1p	ême	=man	-în	-în
	2p	êwe	=tan	-(i)n	-(i)n
	3p	ewan	=yan	-(i)n	-(i)n

2633 Beyond the (relatively minor) differences in form between Sets 1 and 2, there is also stress  
 2634 difference. As background, the unmarked lexical stress falls on the final syllable in Sorani  
 2635 (Thackston 2006b:3), and typical inflectional affixes fall under this pattern as well. Consider  
 2636 (56), adapted from Öpengin (2019:251).

2637 (56) Sorani Stress

	<i>bāyinjān</i>	[bā.yin.'dʒān]	‘tomato’
	<i>hawīn</i>	[ha.'win]	‘summer’
2638	<i>hawīn-eke</i> summer-DEF	[ha.wi.ne.'ke]	‘the summer’
	<i>kē</i>	['kē]	‘gravestone’
	<i>kē-lān</i> gravestone-PL	[kē.'lān]	‘gravestones’
	<i>mird-ū</i> die.PST-PTCP	[mir.'dū]	‘dead’

2639 Öpengin (2019) draws attention to the fact that within the MP agreement forms, an  
 2640 asymmetry is observed in terms of stress patterns in the imperfective and perfective. Set  
 2641 2 forms (i.e., MP agreement markers in the perfective) differ from the Set 1 forms (i.e.,  
 2642 MP agreement markers in the imperfective) in that Set 2 markers do not receive the un-  
 2643 marked word-final lexical stress: stress occurs on the syllable immediately preceding these  
 2644 affixes. We provide a few illustrations in (57), taken from Öpengin (2019:252) with glosses  
 2645 maintained.

2646 (57) MP agreement and stress

	<i>de-zān-ī</i>	[de.zā.'nī]	IND-know.PRS-2SG	‘You know (it).’
	<i>de-gir-in</i>	[de.gi.'rin]	IND-keep.PRS-3PL	‘They keep ...’
2647	<i>nūst-im</i>	['nūs.tim]	sleep.PST-1SG	‘I slept’
	<i>kird-ūw-im</i>	[kir.'dū.wim]	do.PST-PTCP-1SG:O	‘You invited me.’

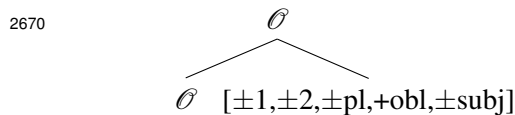
2648 Importantly, the differences between Set 1 and Set 2 are based entirely on the imperfec-  
 2649 tive/perfective split, not on the MS provenance of the  $\varphi$  marker. In the perfective, MP agree-  
 2650 ment can either arise via MS agreement (in intransitives), or via MS clitic movement (in the

2651 case of moved DOs). In both cases, the MP Agreement is realized as Set 2, and behaves distinctly from MP agreement in the imperfective. We do not have a specific proposal for how the Set 1/Set 2 differences is represented in Sorani; this could be done in different ways.<sup>23</sup>  
 2652  
 2653  
 2654 For our purposes, what is important is the observation that MP clitics and MP Agreement  
 2655 behave in ways that are not defined by the MS operation that produces them.

2656 We now turn to an analysis of the formal distinctions between MP clitics and MP Agreement,  
 2657 which we will undertake without further reference to the Set 1/Set 2 distinction. As  
 2658 we noted earlier, MP Agreement versus MP clitic realization reflects the case features that  
 2659 are present on the element, which in turn correlates with their distribution: the  $\varphi$  indexers  
 2660 associated with  $\mathcal{O}$  bear the feature [+obl], and are realized as MP clitics; those that are attached  
 2661 to T have [-obl], and are realized as MP agreement (see Karimi 2021 for a similar  
 2662 approach as to the distribution).

2663 The situation for  $\mathcal{O}$  is illustrated in (58), where we represent the  $\varphi$  and case features in  
 2664 a morpheme attached to this head (a decomposition into smaller parts is considered below).  
 2665 This morpheme can be either (i) a moved pronominal clitic with Accusative case (in the  
 2666 imperfective), or (ii) the result of Agreement with an Ergative subject (in the perfective). In  
 2667 the latter case, whatever operation creates Agreement morphemes and provides them with  
 2668 features must apply. In both cases, the case feature [+obl] is present:

2669 (58)  $\varphi$  element attached to  $\mathcal{O}$



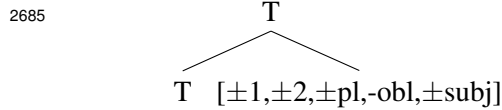
2671 As part of a working analysis of how clitic placement works in Sorani, we assume that the  
 2672  $\mathcal{O}$  head is not itself realized phonologically, unlike the  $\varphi$  element attached to it. The  $\varphi$ -  
 2673 element that is attached to  $\mathcal{O}$  has a phonological dependency to its left, and must therefore  
 2674 find an appropriate (=phonologically-overt) host. This is a first step towards explaining why  
 2675 the MP Clitic has the distribution that it shows: given its phonological dependency, it either  
 2676 leans to the left if there is a host in its domain; or, if no such host is present, it inverts with  
 2677 the first element to the right (recall the outline of possible hosts sketched in Chapter 3).<sup>24</sup>

2678 The second scenario to consider involves Tense. In our look at clause structure in Chapter  
 2679 2, we hypothesized that Tense is high in the clausal spine, and linearized on the right.  
 2680 From that position, it either leans on the verbal complex to the left, or is attached to it by  
 2681 head movement or whatever affixation operation(s) are used for that purpose. The  $\varphi$  element  
 2682 attached to Tense, which is either the result of an Agreement operation with a Nominative  
 2683 subject, or a moved Objective case pronominal clitic, has the feature [-obl]:

<sup>23</sup>Öpengin (2019:253) notes a historical contrast between Set 1 and Set 2 person markers in that the latter might have derived from the contraction of the verb stem *ha* ‘to be’ and verb agreement suffixes. For similar scenarios see Embick (1995) on Polish, and Good and Yu (2005) on Turkish.

<sup>24</sup>We have in mind here something like Local Dislocation (Embick and Noyer 2001; Embick 2007), although as noted in Chapter 3 the details of Sorani clitic placement present a number of challenges.

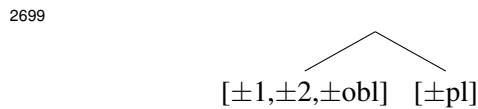
2684 (59)  $\varphi$  element attached to T



2686 This attached  $\varphi$  element always remains “in place”, i.e., suffixed to the verb. Recall that  
 2687 under certain circumstances– when there is not another host available for the MP-Clitics  
 2688 that are associated with  $\emptyset$ – the MP clitics wind up attached to the entire verbal complex.  
 2689 When this happens, it appears that different varieties of Sorani display complex interactions  
 2690 between the MP-Agreement  $\varphi$ -element associated directly with Tense and the MP-clitic,  
 2691 with various types of re-ordering. We put these to the side.<sup>25</sup>

2692 Turning to the morphological realization of  $\varphi$  elements, a first point is that the MP-  
 2693 clitics appear to be decomposable into a Person component  $[\pm 1, \pm 2]$  followed by a number  
 2694 component  $[\pm \text{pl}]$  as in (60a). The [+pl] feature is realized as *-an*, the default plural in  
 2695 the language, while singular (i.e. [-pl]) is not realized overtly. The realization of forms is  
 2696 shown in (60b), which abstracts away from morphophonological details (e.g. the /i/ preced-  
 2697 ing 1s/2s; or the fact that 3pl *î-an* is realized as *-yan*):

2698 (60) a. clitic



2700 b. Realizations

	<b>person</b>	<b>number</b>
1s	(i)m	∅
2s	(i)t	∅
3s	î	∅
1p	m	an
2p	t	an
3s	î	an

2701

<sup>25</sup>The literature contains several different reports concerning (re-)ordering effects. For example, in SSK the MP clitic A argument typically precedes the MP agreement indexing the O argument, (cf. (19b) and other examples); when the MP clitic is 3sg, the order is reversed, thus resulting in *Host-MP agreement-MP clitic*, as in (i).

- (i) bird-în=î  
 take.PST-1PL=3SG.CL  
 ‘He took us.’

Another point of variation among dialects is reported when two MP agreement forms are attached onto the verb. See e.g., Samvelian (2007a); Haig (2008) for perspectives on these effects.



2702 It is also possible to split person and number for MP Agreement. One way of doing this  
 2703 is shown in (61), which abstracts away from the allomorphy seen in Set 1 second and third  
 2704 person singulars, and from the Set 1 versus Set 2 distinction more generally.<sup>26</sup>

2705 (61) MP Agreement forms

	<b>person</b>	<b>number</b>
1s	m	∅
2s	ît...	∅
2706 3s	ê't...	∅
1p	i	in
2p	–	in
3s	–	in

2707 This way of doing things reflects some additional assumptions. While part of the MP agree-  
 2708 ment system shows forms similar to those seen in the MP clitics– e.g., realization of *m* in  
 2709 first person forms– there are differences as well. For example, the distinction between sec-  
 2710 ond and third plurals is neutralized, with both surfacing as *-in*. This suggests the deletion  
 2711 of the person components of [-obl] plurals when they are non-first person, which can be ac-  
 2712 complished with an Impoverishment rule of the type that removes the person features from  
 2713 the representation:

2714 (62) [-1,±2] → ∅/[\_,-obl] [+pl]

2715 The realization of  $\varphi$  bundles can then be brought about by the Vocabulary Items in (63),  
 2716 which are divided into person(/case) and number; for expository convenience we are using  
 2717 the feature [-part(icipant)] here to pick out third person arguments:

2718 (63) a. Person/Case

[+1 -obl]	↔	i/ _ [+pl]
[-part,+obl]	↔	î
2719 [+1]	↔	m
[+2]	↔	-î't
[-part]	↔	-ê't

2720 b. Number

[+pl]	↔	-in/[-obl] _
2721 [+pl]	↔	-an

2722 There are several plausible extensions of (or alternatives to) (63), which would take  
 2723 into account effects like the allomorphy shown by Set 1 markers, as well as alternatives that

<sup>26</sup>On the latter point, the basic observation is that the Set 2 forms show less allomorphy than their Set 1 counterparts; this is consistent with the observation made above concerning their interactions with stress, with the overall picture suggesting that Set 1 affixes are ‘closer’ to their phonological hosts than Set 2 affixes are.

2724 make different choices about what to attribute to the morphophonology versus Vocabulary  
 2725 Insertion (e.g. treating [+pl] as *-an* across the board, and attributing the *-in* realization to  
 2726 (morpho)phonology). We have not gone far enough into this part of Sorani to favor any  
 2727 specific details on these points.

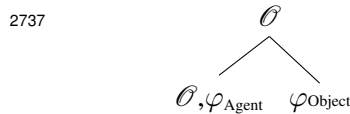
2728 According to our analysis, both the MS operations of Agree and clitic movement can  
 2729 produce an  $\mathcal{O}$  head with the  $\varphi$  features of an argument on it:

2730 (64) Realization of MP clitics on  $\mathcal{O}$

- 2731 a. MP clitic from MS Agreement *Subjects in SSK and GK*
- 2732 b. MP clitic from MS Clitic Movement *Objects in SSK and GK*

2733 Using GK for illustration, a perfective clause in which MS Agreement and MS clitic  
 2734 movement applies results in the  $\varphi$  features of the Subject appearing on  $\mathcal{O}$ , and a clitic  
 2735 attached to this head as well:

2736 (65)  $\mathcal{O}$  in GK, step 1



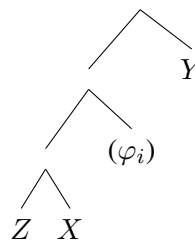
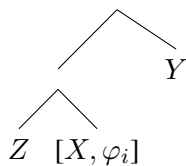
2738 In GK, the clitics appear in the order DO-Agent. Our suggestion is that is the result of  
 2739 the process that realizes the  $\varphi$  Agent features. In short form, the idea is that features that are  
 2740 the result of an Agree operation can be packaged morphologically in two distinct ways.

2741 The first possibility is that such features are packaged as typical agreement morphemes.  
 2742 In this case, the expectation is that this morpheme would appear locally to the head on  
 2743 which the features originate. Using  $X$  as that head, and with  $Y$  and  $Z$  heads included to  
 2744 stress the locality part, this is depicted in the two steps in (66) and (67), where  $\varphi_i$  stands for  
 2745 the features that arise from agreement:

2746

(66) Stage 1

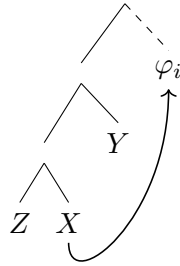
(67) Stage 2



2747 In (66) the features are shown in their original locus: with the head that acquires them  
 2748 via an agreement operation. In (67) these features are shown ‘packaged’ as independent  
 2749 morphemes, in a local relation to the head  $X$  on which they originate.

2750 The second possibility is that the Agree-derived  $\varphi_i$  is packaged as a ‘clitic’— for this,  
 2751 the idea is that  $\varphi_i$  is realized “outermost” in a complex head; we schematize this form of  
 2752 attachment with a dotted line:

2753 (68) Stage 2 (dashed line for “clitic attachment”)

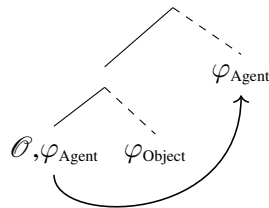


2754

2755 The idea behind the dotted line is that the manner in which a head attaches to another  
 2756 might be reflected in morphophonological closeness. Although we do not have clear (mor-  
 2757 pho)phonological diagnostics that distinguish MP clitics from MP affixes in Sorani, such  
 2758 differences are often found, with typical MP affixes being closer to their hosts than MP  
 2759 clitics are (see Chapter 6 for some discussion). The dotted line representation stands in for  
 2760 the aspect of clitic attachment that produces these morphophonological differences.<sup>27</sup>

2761 The output of this operation in GK is shown in (69):

2762 (69)  $\emptyset$  in GK, step 2



2763

2764 It should be noted that the attachment of the Object clitic is indicated with a dotted line  
 2765 as well; this is based on the assumption that moved clitics and clitics created through the  
 2766 Agree process have an identical MP status. This clitic cluster must then attach to something  
 2767 on its left, as discussed for SSK above.

2768 In summary, the analysis developed in this section is essentially a proof-of-concept;  
 2769 there are several places where alternatives could be explored, and many details of the mor-  
 2770 phophonology that remain untreated. Our primary point is that however the details are ulti-  
 2771 mately fleshed out, our view is that differences between MP clitics and MP agreement will

<sup>27</sup>An operation of the type schematized in (68) is required in analyses of certain clitic phenomena in for e.g. Spanish (see Di Tullio et al. 2019), where the doubled clitic appears to arise via an Agree operation, not movement; and see Embick and Halle (2004/to appear) for an application in the analysis of voice morphology.

2772 reflect the [ $\pm$ obl] distinction, not the MS origins of the  $\varphi$  element. On a more general level,  
2773 the analysis illustrates one of the key points that is raised in Chapter 2: cases that behave  
2774 together for morphosyntax might be different in terms of their morphophonology, and vice  
2775 versa. In SSK, different morphosyntactic operations apply to Ergatives and Accusatives,  
2776 and to Nominatives and Objectives. On the surface, though, Ergatives are realized in the  
2777 same way as Accusatives, and Nominatives are identical to Objectives.

#### 2778 4.8 Summary

2779 In this chapter we have analyzed the indexation patterns of Sorani transitive clauses. To  
2780 review, the analysis is centered on proposals in the following three domains:

2781 **Clause structure/Case assignment** The case features that are assigned to arguments are  
2782 determined by the type clause that they are in: this alignment split is driven by the presence  
2783 or absence of the Asp[+perf] head. Transitive clauses that are perfective have Ergative-  
2784 Objective case assignment; those that are imperfective show Nominative-Accusative. The  
2785 sole argument of intransitive clauses in both aspects (including passives) has Nominative  
2786 case.

2787 **MS Operations** The case labels ‘Nominative’, ‘Ergative’, etc. are shorthand for feature  
2788 bundles that are derived from crossing [ $\pm$ subj(ect)] and [ $\pm$ obl(ique)]. The MS operations  
2789 that Agree and Clitic-Move arguments are specified to target arguments with particular fea-  
2790 tures. In particular, the T head MS Agrees with Nominative [+subj,-obl] arguments, and  
2791 Clitic Moves Objective [-subj,-obl] clitic pronouns. The head  $\mathcal{O}$  Agrees with [+subj,+obl]  
2792 Ergatives, and Clitic Moves [-subj,+obl] Accusatives. Our argument is that Sorani indexa-  
2793 tion cannot be accounted for without decomposing case features in a way that allows par-  
2794 ticular arguments to be the targets of MS Operations.

2795 **Morphological realization** The spell-out of the  $\varphi$  bundles that are involved in indexation  
2796 is independent of the MS operation that they are involved in. The bundles called MP agree-  
2797 ment arise both from MS Agreement (in the case of Nominatives) and MS Clitic Movement  
2798 (with Objective pronouns). The MP clitics are similarly split in their MS origin: they arise  
2799 in both MS Agreement (with Ergatives) and in MS Clitic Movement (with Accusatives). An  
2800 important part of this facet of the analysis is that it allows for these syncretisms to be ac-  
2801 counted for systematically. The larger point that comes out of this part of the analysis is that  
2802 MS operations and their MP realizations can be *indirectly* related: a single MS operation in  
2803 Sorani (Agreement or Clitic Movement) can result in either an MP Agreement morpheme  
2804 or an MP clitic.

2805  
2806 While most of our attention in the treatment of indexation is directed at transitive  
2807 clauses, it is important to note that the analysis extends to **intransitive** clauses as well. As  
2808 will be discussed in detail in Chapter 6, an analysis that does not make use of Case Tar-  
2809 geting, and which appeals only to the aspectual split and locality (probing for the highest  
2810 argument) has some promise for transitives, but encounters serious difficulties when intrans-

2811 sitive clauses are brought into the picture. This theme (and some related ones) also plays  
2812 an important role in the next chapter, where we examine a further testing ground for our  
2813 analysis: clause types that go beyond simple intransitives and transitives.

2816 This chapter extends the Case Targeting analysis developed in Chapter 4 to further argu-  
2817 ments that enter the Sorani indexation system. The different clause types to be examined  
2818 involve possessors and arguments of prepositions, non-canonical subject constructions, and  
2819 passives of ditransitives.

2820 The case-studies just mentioned will take us deep into a number of intricate details. With  
2821 this in mind, we would like to spend some time first outlining why it is important to look  
2822 beyond transitive clauses. The first and most basic answer is that the additional argument  
2823 types that we examine enter the system of indexation that we are analyzing: that is, they  
2824 are targets of MS Agreement and MS Clitic Movement, and realized as MP Agreement or  
2825 MP Clitics. A comprehensive analysis of the indexation system therefore owes an account  
2826 of them (as well as of intransitives which— as we will see in Chapter 6— are often crucial in  
2827 testing the predictions of particular proposals).

2828 As we will see, the comparative analyses of both Standard Sorani Kurdish (SSK) and  
2829 Garmiani Kurdish (GK) presented in this chapter reinforce the idea that indexation is case-  
2830 driven, and provide additional evidence in favor of many other proposals that are developed  
2831 earlier in the book. In particular, it does not appear to be possible to state many of the  
2832 generalizations that are uncovered without reference to case features. The main results also  
2833 provide interesting suggestions about how these features are assigned: one of our main  
2834 proposals is that a contextual case assignment process applies in certain constructions, as-  
2835 signing a case to an argument that is in a sense unexpected, but at the same time one that  
2836 matches the case of a local argument. Once this occurs, the mechanics of indexation pro-  
2837 posed in Chapter 4 apply without modification to yield the desired results.

2838 \* \* \*

2839 To help with the navigation through the pages to come, we will begin with a brief look  
2840 at each of the construction types to be considered, along with a summary of main results.

2841 **Possessors and arguments of prepositions** Possessors and the arguments of prepositions  
2842 (P-arguments) can also enter the indexation system of Sorani. Such arguments can be real-  
2843 ized in their expected positions— i.e., attached to the possessed noun, or as the complement  
2844 of a preposition— as shown in (1a) and (2a). In perfective clauses, these arguments can be  
2845 realized as MP Agreement on the verb, as shown in (1b)-(2b):

2846 (1) a. Otombel-aka=**man** de-be-*n*  
 car-the=1PL.CL IND-take.PRS-PL

2847 ‘They take our car away.’

2848 b. Otombel-aka=**yan** bird-**în**  
 car-the=3PL.CL take.PST-1PL

2849 ‘They took our car away.’

2850 (2) a. ew ême=**y** bo=**yan** nard  
 s/he us=3SG.CL to=3PL.CL send.PST

2851 ‘S/he sent us to them.’

2852 b. ew ême=**y** bo nard-**în**  
 s/he us=3SG.CL to send.PST-3PL

2853 ‘S/he sent us to them.’

2854 Our analysis shows that this kind of displacement results from MS Clitic Movement: in pos-  
 2855 session, this amounts to a kind of possessor raising. We argue that this process is restricted  
 2856 in a way that is defined by case: specifically, the moving Possessors and Prepositional com-  
 2857 plements are assigned Objective case, and this happens only when there is an Objective  
 2858 marked DO in the clause. The realization of the Clitic-Moved Objective pronoun as MP  
 2859 Agreement then follows from the same mechanisms that are posited for transitive clauses,  
 2860 where Objective case clitic pronominals are realized as MP Agreement.

2861 Further evidence that the effect arises from the P-argument having the case of the DO  
 2862 can be seen in the imperfective, where DOs have Accusative case. When objects of prepo-  
 2863 sitions are displaced in this aspect, they are realized as MP Clitics as shown in (3b):

2864 (3) a. ew ême bo=**yan** e-nêrê-t  
 3SG.pro us to=3PL.CL IND-send-3SG

2865 ‘S/he sends us to them.’

2866 b. ew ême=**yan** bo e-nêrê-t  
 3SG.pro us=3PL.CL to IND-send-3SG

2867 ‘S/he sends us to them.’ (GK/SSK)

2868 That is, they behave exactly as expected if they have Accusative case like the DO. Accord-  
 2869 ingly, in GK, where DOs have Accusatives in both aspects, this effect can also take place in  
 2870 the *perfective*, as shown in (4b); cp. SSK (2b):

2871 (4) a. ew ême=**y** bo=**yan** nard  
 3SG.pro us=3SG.CL to=3PL.CL send.PST

2872 ‘S/he sent us to them.’

2873 b. ew ême=**yan**=**î** bo nard  
 3SG.pro us=3PL.CL=3SG.CL to send.PST

2874 ‘S/he sent us to them.’ (GK/\*SSK)

2875 The extension of the analysis of indexation to P-arguments thus reveals several new as-  
 2876 pects of Case Targeting, and has important theoretical implications that are addressed in the  
 2877 theoretical discussion.

2878 **Non-canonical subjects** There are certain verbal clauses in Sorani that show Ergative  
 2879 subjects *in both aspects*. These are lexically restricted, and fall under two distinct types  
 2880 which are exemplified by *want* in (5) and what we call *clausal possession* in (6):

- 2881 (5) a. min kitêb=**im** de-wê.  
 1 SG.pro book=1 SG.CL IND-want.PRS  
 2882 ‘I want book/books.’  
 2883 b. min kitêb=**im** wîst.  
 1 SG.pro book=1 SG.CL want.PST  
 2884 ‘I wanted book/books.’
- 2885 (6) a. min se xushk=**im** he-ye / he-*n*.  
 1 SG.pro three sister=1 SG.CL exist-COP.PRS / exist-COP.PRS.PL  
 2886 ‘I have three sisters.’  
 2887 b. min se xushk=**im** he-bu-(*n*).  
 1 SG.pro three sister=1 SG.CL exist-COP.PST-PL  
 2888 ‘I had three sisters.’

2889 We propose that the *want* type has an inherently Ergative Subject: in both aspects this  
 2890 argument is licensed by an Applicative (Voice) head. The clausal possession construction  
 2891 differs syntactically from *want*. On our analysis, the Subject originates inside the possessed  
 2892 DP, where it is assigned Ergative by a particular functional head. From this position, it is  
 2893 moved out of the possessed DP, and functions as the subject of the clause. Strikingly, this  
 2894 construction shows ‘double subject’ properties: the possessor agrees in the way typical of  
 2895 Ergative arguments, and the possessum agrees (optionally) in the way expected of Nomina-  
 2896 tive arguments.

2897 **Passivization of ditransitives** The passivization of transitives in Sorani produces Nom-  
 2898 inative subjects in both aspects. Passivization on Direct Objects of ditransitives is also un-  
 2899 exceptional; the DO becomes the Subject, and, as expected, is Nominative. Passives of  
 2900 ditransitives, though, display some very unusual properties. Examples are given in (7) in  
 2901 imperfective and perfective aspects, respectively:

- 2902 (7) a. ême dyarî-ek-an=**man** pê-de-d-rê-(*n*).  
 1 PL.pro gift-the-PL=1 PL.CL to-IND-give.PRS-PASS.PRS-PL  
 2903 ‘We will be given the gifts.’  
 2904 b. ême dyarî-ek-an=**man** pê-di-ra-(*n*).  
 1 PL.pro gift-the-PL=1 SG.CL to-give.PRS-PASS.PST-PL  
 2905 ‘We were given the gifts.’



2906 The surface subject in the IO passive shows the indexation pattern typical of Ergatives,  
 2907 in a way that is not conditioned by aspect. Second, the DO is indexed (optionally) with  
 2908 MP Agreement, in a way that is typical of arguments with Nominative case. In addition,  
 2909 while standard DOs and their corresponding indexers are in complementary distribution,  
 2910 this is not the case in IO passives, where both arguments are apparently involved in MS  
 2911 Agreement. The facts point to the subject being a **derived Ergative**– something that is  
 2912 typologically unusual to say the least.

2913 We hypothesize that the IO passive case patterns share crucial properties with clausal  
 2914 possession; that is, that these two configurations share a structural property, with a lower  
 2915 argument being moved over a higher argument, or out of a containing one.

2916 After working through these details of Sorani indexation, we present three comparative  
 2917 case studies that put our analyses into a larger context by providing pertinent illustrations  
 2918 of loci of variation in different Iranian languages.

## 2919 5.1 Possessors and prepositional arguments

2920 Our starting point for this section builds on prior work on the behavior of possessors and  
 2921 P(repositional)-arguments in Sorani varieties, which has noted the ways in which these ar-  
 2922 guments enter the system of  $\varphi$  indexation.<sup>1</sup> As shown in (8) and (9) via the box format, both  
 2923 possessors and prepositional complements may be indexed as MP clitics or MP agreement  
 2924 morphemes:

- 2925 (8) a. Otombel-aka=man de-be-*n*  
 car-the=1 PL.CL IND-take.PRS-PL  
 2926 ‘They take our car away.’
- 2927 b. Otombel-aka=**yan** bird-în  
 car-the=3 PL.CL take.PST-1 PL  
 2928 ‘They took our car away.’ (SSK)
- 2929 (9) a. ew ême=**y** bo=yan nard  
 s/he us=3 SG.CL to=3 PL.CL send.PST  
 2930 ‘S/he sent us to them.’
- 2931 b. ew ême=**y** bo nard-în  
 s/he us=3 SG.CL to send.PST-3 PL  
 2932 ‘S/he sent us to them.’ (SSK)

<sup>1</sup>See e.g. Haig (2008:293-294), Gharib and Pye (2018:63), Nabors et al. (2019) for Central Kurdish; Öpengin (2016:188, 259) for the Mukri variety of Kurdish; Holmberg and Odden (2004) for Hawrami; Kahnemuyipour and Taghipour (2020) for Laki; and Mohammadirad (2020b) for several Iranian languages). Haig (2008) uses the general term *cross-referencing* for this phenomenon, in which ‘the indirect participant can be cross-referenced on the verb, in the form of verbal agreement suffix’ (p. 293). Öpengin (2016) calls this phenomenon *disforming*, the intuition being that the realization of the possessor as MP-Agreement is associated with an avoidance of clitic sequences (see below).

2933 Concentrating first on possession, the effect seen in (8b) has been referred to descriptively  
 2934 as “external possession” in work on Sorani (see e.g. Haig 2008). In the baseline case (8a),  
 2935 possession is indicated by an adnominal possessor in the form of a clitic pronoun that ap-  
 2936 pears at the end of the possessed DP; what (8b) shows is that this possessor can also be  
 2937 indexed as MP agreement on the verb, in which case no corresponding clitic appears on the  
 2938 possessed DP.

2939 Another set of examples illustrating this effect is given in (10a-b). It can be further seen  
 2940 in (10c) that while realizing the possessor as MP Agreement is possible in the perfective  
 2941 (10b), it is ungrammatical in imperfective:<sup>2</sup>

- 2942 (10) a. Otombel-aka=**man** de-be-*n*  
 car-the=1PL.CL IND-take-PL  
 2943 ‘They take our car away.’  
 2944 b. Otombel-aka=*yan* bird-*în*  
 car-the=3PL.CL took-1PL  
 2945 ‘They took our car away.’ (SSK)  
 2946 c. \*Otombel-aka de-be{-*n-în/-yn-in*}  
 car-the IND-take-PL-1PL/-1PL-PL  
 2947 ‘They take our car away.’

2948 As shown in (9) above, a similar pattern has been reported with ditransitives, where  
 2949 the argument in question is an IO originating inside of a PP. Descriptively, the argument  
 2950 that starts as the object of the preposition like the 3pl MP clitic *-yan* ‘them’ in (11a) can  
 2951 also be realized as MP agreement *-in*, as shown in (11b). This effect is also restricted to  
 2952 the perfective; the corresponding imperfective (11c) is ungrammatical, regardless of the  
 2953 morpheme order:

- 2954 (11) a. ew ême=*y* bo=**yan** nard  
 s/he us=3SG.CL to=3PL.CL sent  
 2955 ‘S/he sent us to them.’  
 2956 b. ew ême=*y* bo nard-*in*  
 s/he us=3SG.CL to sent-3PL  
 2957 ‘S/he sent us to them.’ (SSK)  
 2958 c. \*ew ême bo de-nêrê{-*t-in/-in-it*}  
 s/he us to IND-send-3SG-3PL/3PL-3SG  
 2959 ‘S/he sends us to them.’

2960 In terms of their MS behavior, neither the possessors nor P-arguments can cooccur with  
 2961 an overt coindexed argument; in this regard, they behave like DOs, as we saw in Chapter 4.

<sup>2</sup>In this section we continue with the convention of showing MP clitics in bold and MP agreement in italics, with the restriction that this is done sometimes only for the arguments of interest (i.e. possessors and P-arguments).

2962 Consider the possessors in (12)-(13); unlike its grammatical counterpart in (10b), an attempt  
 2963 to realize the possessor overtly with its MP Agreement indexer in (12) results in ungram-  
 2964 maticity. (13) makes the same point, with the difference that (13b) shows a possessor in  
 2965 the *Ezafe* construction that has been studied extensively in the literature on Iranian, which is  
 2966 essentially a linker morpheme that introduces dependents of the noun including attributive  
 2967 adjectives, possessors.<sup>3</sup> In this context as well, it is not possible for the possessor and the  
 2968 indexer to co-occur, (13c).

2969 (12) \*Otombel-aka=**man**=yan bird-**în**  
 2970 car-the=1 PL.CL=3 PL.CL took-1 PL  
 Intended: ‘They took our car away.’

2971 (13) a. to name-k-an=**im**=it bird.  
 2972 2SG.pro letter-the-PL=1 SG.CL=2SG.CL took  
 ‘You.sg took away my letters.’<sup>4</sup> (GK)  
 2973 b. to name-k-an-î **min**=it bird.  
 2974 2SG.pro letter-the-PL-EZ my=2SG.CL took  
 ‘You.sg took away my letters.’ (GK/SSK)  
 2975 c. \*to name-k-an-î **min**=it bird-**im**.  
 2976 2SG.pro letter-the-PL-EZ my=2SG.CL took-1 SG  
 ‘You.sg took away my letters.’

2977 The same property holds for the P-arguments, as illustrated in (15)-(14): the P-argument  
 2978 can be realized in-situ as MP Clitic, (14a), or on the verbal complex as an MP Agreement,  
 2979 (14b); yet, these two cannot co-occur, as shown in (14c) and (15).

2980 (14) a. ew name-k-an=î bo=**yan** nard  
 2981 3SG.pro letter-the-PL=3SG to=3PL.CL sent  
 ‘S/he sent the letters to them.’  
 2982 b. ew name-k-an=î bo nard-*in*  
 3SG.pro letter-the-PL=3SG to sent-PL  
 2983 ‘S/he sent the letters to them.’

<sup>3</sup>For the *Ezafe*, see Larson and Samiiian 2021; Toosarvandani and Van Urk 2014; Holmberg and Odden 2008; Ghomeshi and Ritter 1996; Kahnemuyipour 2014; Samvelian 2007b, among others. See also Chapter 5 (§5.6.2) for some discussion.

In Sorani the pronominal possessor is normally realized as the MP clitic form, unless it is (contrastively) focused or emphasized, in which case it is realized as an independent pronoun, with the possessee bearing an *ezafe* marker, (13b). See e.g. Öpengin (2016:211) for the same observation, who notes: “A pragmatically neutral clause is probably always marked for its possessor by a clitic PM. But in a context where the possessor is focused, in contrast to other preceding candidates, the possessor is expressed by an independent pronoun (usually a weak form) while a clitic PM in this context would not be acceptable.” See also Thackston (2006b:14) for the same point, and Amin (1979: ch. 5.3.) for some examples. This alternation between an enclitic and an independent pronoun is present in Persian as well (Ghomeshi and Ritter 1996).

<sup>4</sup>Such a sequence of possessor MP-clitic followed by the MP clitic indexing the A argument is not possible in SSK. Accordingly, since the realization of the possessor as an MP agreement on the verb is also not available in GK, the counterpart of (13c) would be ruled out for independent reasons, so we do not illustrate it.

- 2984 c. \*ew name-k-an=î bo qutabiy-ek-an / bo=yan nard-in  
 2985 3SG.pro letter-the-PL=3SG to student-the-PL / to=3PL.CL sent-PL  
 'S/he sent the letters to the students / to them.'
- 2986 (15) \*ew ême=y bo=yan nard-in  
 2987 3SG.pro us=3SG.CL to=3PL.CL sent-PL  
 'S/he sent us to them.'

2988 In addition, arguments of prepositions and possessors can resume a topicalized element,  
 2989 similar to the behavior of DO indexers. This is illustrated for P-arguments and possessors in  
 2990 (16) and (17), respectively. (The topicalized DP and the associated resumptive pronominal  
 2991 are underlined).

- 2992 (16) a. minal-ek-an, ew ême=y bo=yan nard  
 2993 child-DEF-PL s/he us=3SG.CL to=3PL.CL sent  
 'The children, s/he sent us to them.'
- 2994 b. minal-ek-an, ew ême=y bo nard-in  
 2995 child-DEF-PL s/he us=3SG.CL to sent-3PL  
 'The children, s/he sent us to them.' (SSK)
- 2996 (17) a. minal-ek-an, to name-k-an=it bird-in.  
 2997 child-DEF-PL 2SG.pro letter-the-PL=2SG.CL took-3PL  
 'The children, you.sg took away their letters.' (SSK)
- 2998 b. minal-ek-an, to name-k-an=yan=it bird.  
 2999 child-DEF-PL 2SG.pro letter-the-PL=3PL.CL=2SG.CL took  
 'The children, you.sg took away their letters.' (GK)

3000 These effects suggest that possessors and P-arguments, like DOs, are moved pronominal  
 3001 clitics. With this in mind, we will use the term *displacement* below to describe the situations  
 3002 in which Clitic Movement has affected these arguments. More specifically:

3003 **MP-Agreement displacement:** MS Clitic Movement of a possessor/object of a preposi-  
 3004 tion to T, where it is realized as MP Agreement.<sup>5</sup>

<sup>5</sup>In terms of its movement properties, the position in which a displaced argument originates and the element it moves to are not necessarily linearly adjacent. This is illustrated in (i), in which the 1pl pronominal complement of the "circumposition" *basar ... dâ* is MP-Agreement displaced onto the predicate, across intervening elements (The dots indicate the position in which the P-argument originates. See also fn. 13 for the same possibility in the case of MP-clitic displacement).

(i) dast=ī ba-sar-...-dâ zâġ kird-în.  
 hand=3SG.CL to-on-...-postp. dominant do.PST-1PL  
 'He extended his dominance over us.' (Jügel 2009:154,(29))

3005 Most prior literature on Sorani focuses on what we have just called MP Agreement dis-  
 3006 placement, where (as the name indicates) the displaced argument ends up realized as MP  
 3007 agreement. In some of the varieties that have been investigated in prior work, this is taken to  
 3008 be the only way in which possessors may be displaced. For example, Haig (2008:296) notes  
 3009 “when an Indirect Participant [=Possessor or P-argument] is cross-referenced on the verb, it  
 3010 **always** takes the form of the verbal agreement suffix rather than the (expected) pronominal  
 3011 clitic” [emphasis in the original work].

3012 However, the varieties of Sorani that we have investigated also show a type of displace-  
 3013 ment in which the moved element is realized as an MP *clitic*. An example of this is shown  
 3014 in (18) (= (3)), where (18a) shows an IO clitic in situ in a PP, while (18b) shows it moved  
 3015 as a clitic, and attached to the DO:

- 3016 (18) a. ew ême bo=**yan** e-nêrê-t  
 3017 3SG.pro us to=3PL.CL IND-send-3SG  
 3018 ‘S/he sends us to them.’  
 3019 b. ew ême=**yan** bo e-nêrê-t  
 3020 3SG.pro us=3PL.CL to IND-send-3SG  
 3021 ‘S/he sends us to them.’ (SSK/GK)

3020 To distinguish this phenomenon from MP Agreement displacement, we call it *MP-Clitic*  
 3021 *displacement*.<sup>6</sup>

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<sup>6</sup>This statement does not make reference to Possessors because it is impossible to tell if they undergo this process. This requires some explanation.

As shown schematically in (i), a clitic displaced possessor would originate after the DO (i.a), and then clitic move to the *Ø* head (i.b). From this position, it would then be cliticized onto the host (i.c), producing a string that is identical to what would be found if no clitic movement had occurred:

- (i) a. ... DO=cl.poss VERB  
 b. ... =cl.poss DO VERB  
 c. ... DO=cl.poss VERB

As it turns out, the same reasoning makes it impossible to determine whether or not the GK variety shows MP clitic displacement. If possessor raising took place, the expected realization of the possessor would be as an oblique clitic, as in (ii.a).

- (ii) a. to name-k-an=**im**=it bird.  
 2SG.pro letter-the-PL=1SG.CL=2SG.CL took  
 ‘You.sg took away my letters.’ (GK)  
 b. \*to=**m** name-k-an=it bird.  
 2SG.pro=1SG.CL letter-the-PL=2SG.CL took  
 Intended: ‘You.sg took away my letters.’

The host for this clitic would necessarily be the possessed direct object as the subject is not a licit host, (ii.b); as such, possessor raising would produce an output identical to what would happen if possessor movement did not take place.

3022 **MP-Clitic displacement:** MS Movement of an object of a preposition to clitic position,  
3023 where it is realized as an MP clitic.

3024 To preview the analysis to come, we will show that MP-Agr displacement involves move-  
3025 ment to the T head, whereas MP-Clitic displacement is to the  $\mathcal{O}$  head; in this way, these  
3026 operations can be reduced to the MS Clitic Movement operation that applies to Sorani DOs.  
3027 Both types of displacement occur only under certain conditions, however; crucially, these  
3028 require reference to case features, further illustrating the importance of Case Targeting.

3029 On this latter point, some further background is helpful. The initial set of facts con-  
3030 sidered above for MP Agreement displacement, and in particular the ungrammaticality of  
3031 MP Agreement displacement in the imperfective, seen in (10)-(11), has been taken by some  
3032 researchers to indicate that P-arguments are realized as MP agreement in a way that is deter-  
3033 mined by the perfective/imperfective split: see e.g. Haig (2008:293-294), Gharib and Pye  
3034 (2018:63), Öpengin (2016:188, 259), Holmberg and Odden (2004), Kahnemuyipour and  
3035 Taghipour (2020), and Mohammadirad (2020b). Our analysis of this phenomenon reveals  
3036 that while aspect clearly plays a role in defining the conditions under which possessors and  
3037 P-arguments can be realized as MP agreement, there are further conditions restricting MP  
3038 Agreement displacement that an aspect-only approach does not account for. More specifi-  
3039 cally, our analysis of SSK and GK reveals three generalizations that will be established in  
3040 the pages to come. These are as follows:

3041 (G1) First, possessors and P-arguments can be moved and realized as MP agreement, but  
3042 only in the perfective.

3043 (G2) Second, possessor realization as MP Agreement happens only when the possessor  
3044 originates on a DO argument.

3045 (G3) Finally, P-argument realization as MP Agreement happens only when there is a DO  
3046 in the same clause.

3047 In our view, taken together, (G2) and (G3) indicate that MP Agreement displacement hap-  
3048 pens only in clauses in which there is an *Objective* DO. With this in mind, it is then possible  
3049 to extend the case-driven analysis of Chapter 4 to account for the attested patterns.

3050 A key idea is that a special (=contextual) case assignment process applies to possessors  
3051 and prepositional arguments in Sorani under certain circumstances. In particular, moving  
3052 clitic pronouns in these configurations are assigned [-subj,-obl] Objective when they are  
3053 local to an Objective Direct Object. Once this occurs, the mechanics of indexation proposed  
3054 in Chapter 4 apply without modification to yield the desired results.

3055 In the course of the discussion some further topics are addressed as well, including the  
3056 status of MP Clitic displacement, as well as some differences between SSK and GK.

### 3057 **5.1.1 External possession**

3058 We noted above the popularity of accounts that restrict MP Agreement Displacement of  
3059 possessors to perfective clauses. Our first observations center on the idea that while this

3060 appears to be correct, an aspect-based restriction must be augmented, as there are further  
 3061 restrictions on this process.

3062 An initial observation is that it is not possible to displace the possessor of the A argu-  
 3063 ment, (19), even in the perfective (imperfectives like (20) are also ungrammatical).<sup>7</sup>

- 3064 (19) a. pishîle-k-an=**im** otombel-aka=**yan** bird.  
 cat-the-PL=1 SG.CL car-the=3 PL.CL took  
 3065 ‘My cats took the car away.’  
 3066 b. \*pishîle-k-an otombel-aka=**yan** bird-**im**.  
 cat-the-PL car-the=3 PL.CL took-1 SG  
 3067 NO: ‘My cats took the car away.’  
 3068 YES: ‘The cats took my car away.’

<sup>7</sup>The same facts also hold when both the O and A arguments have possessors. The O possessor can be displaced, but not the A possessor. Consider (i):

- (i) a. pishîle-k-an=im otombel-aka=**man**=yan bird  
 cat-the-PL=1 SG.CL car-the=1 PL.CL=3 PL.CL took  
 ‘My cats took our car away.’  
 b. pishîle-k-an=im otombel-aka=yan bird-*în*.  
 cat-the-PL=1 SG.CL car-the=3 PL.CL took-1 PL  
 ‘My cats took our car away.’  
 c. \*pishîle-k-an otombel-aka=**man**=yan bird-*im*  
 cat-the-PL car-the=1 PL.CL=3 PL.CL took-1 SG  
 ‘My cats took our car away.’

In terms of interactions with other arguments, the DO possessor can also be displaced in a configuration that involves an applied constituent. The salient interpretation is where the beneficiary is used in a contrastive sense; in terms of word-order, there is a preference for the beneficiary to appear postverbally (sentence-initial positioning is also allowed, whereas the preverbal position is dispreferred).

- (ii) a. (min) xwardin-eke=**t=im** bird bo Mary/ewan.  
 1 SG.pro food-the=2 SG.CL=1 SG.CL take.PST for Mary/them  
 ‘I took away your food for Mary/them.’ (e.g. to give it to her/them)  
 b. (min) xwardin-eke=**m** bird-*ît* bo Mary/ewan.  
 1 SG.pro food-the=1 SG.CL take.PST-2 SG for Mary/them  
 ‘I took away your food for Mary/them.’

The examples in (iii) show that we are not dealing with an ‘ethical dative’:

- (iii) a. pishîle-k-an John=**yan** bird-*im*  
 cat-the-PL John=3 PL.CL took-1 SG  
 YES: ‘The cats took my John away.’  
 NO: ‘The cats took John away on me (i.e., it affected me).’  
 b. \*pishîle-k-an to=**yan** bird-*im*  
 cat-the-PL you.pl=3 PL.CL took-1 SG  
 ‘The cats took you away on me.’

- 3069 (20) a. pishîle-k-an=**im** otombel-aka e-be-*n*.  
 cat-the-PL=1 SG.CL car-the IND-take-PL  
 3070 ‘My cats take the car away.’  
 3071 b. \*pishîle-k-an otombel-aka e-be- $\{n\text{-}im\text{-}m\text{-}in\}$ .  
 cat-the-PL car-the IND-take-PL-1 SG/-1 SG-PL  
 3072 ‘My cats take the car away.’

3073 The aspect-based distinction also fails to explain why it is not possible to displace the  
 3074 possessor in (21b), which is the passive counterpart of (10b), despite being in the perfective  
 3075 (the corresponding imperfective (22b) is also ungrammatical):

- 3076 (21) a. Otombel-ak-an=**man** be-ra-*n*.  
 car-the-PL=1 PL.CL take.PRS-PASS.PST-PL  
 3077 ‘Our cars were taken away.’  
 3078 b. \*Otombel-ak-an be-ra- $\{n\text{-}în\text{-}yn\text{-}in\}$ .  
 car-the-PL take.PRS-PASS.PST-PL-1 PL/-1 PL-PL  
 3079 ‘Our cars were taken away.’  
 3080 (22) a. Otombel-ak-an=**man** e-be-rê-*n*.  
 car-the-PL=1 PL.CL IND-take.PRS-PASS.PRS-PL  
 3081 ‘Our cars are taken away.’  
 3082 b. \*Otombel-ak-an e-be-rê- $\{n\text{-}în\text{-}yn\text{-}in\}$ .  
 car-the-PL IND-take.PRS-PASS.PRS-PL-1 PL/-1 PL-PL  
 3083 ‘Our cars are taken away.’

3084 As might be expected given what we have shown above, it is never possible to displace  
 3085 the possessor of the sole argument of an intransitive, as illustrated for unaccusatives in  
 3086 (23)-(24), and unergatives in (25)-(26), in both perfective/imperfective aspects:<sup>8</sup>

- 3087 (23) a. pishîle-k-an=**man** kewt-*in*  
 cat-the-PL=1 PL.CL fell-PL  
 3088 ‘Our cats fell.’  
 3089 b. \*pishîle-k-an kewt- $\{-in\text{-}în\text{-}în\text{-}in\}$   
 cat-the-PL fell-PL-1 PL/-1 PL-PL  
 3090 ‘Our cats fell.’  
 3091 (24) a. pishîle-k-an=**man** de-kew-*in*  
 cat-the-PL=1 PL.CL IND-fall-PL  
 3092 ‘Our cats fall.’  
 3093 b. \*pishîle-k-an de-kew- $\{-in\text{-}în\text{-}în\text{-}in\}$   
 cat-the-PL IND-fall-PL-1 PL/-1 PL-PL  
 3094 ‘Our cats fall.’

<sup>8</sup>The same facts also hold for nonverbal predicates, e.g. *My cats are/were nice*.



- 3095 (25) a. pishîle-k-an=**im** kokî-n  
 cat-the-PL=1 SG.CL coughed-PL  
 3096 ‘My cats coughed.’  
 3097 b. \*pishîle-k-an kokî{-n-*im/-m-in*}  
 cat-the-PL coughed-PL-1 SG/-PL-1 SG  
 3098 ‘My cats coughed.’
- 3099 (26) a. pishîle-k-an=**im** de-kok-in  
 cat-the-PL=1 SG.CL IND-cough-PL  
 3100 ‘My cats cough.’  
 3101 b. \*pishîle-k-an de-kok{-in-*im/-im-in*}  
 cat-the-PL IND-cough-PL-1 SG/-PL-1 SG  
 3102 ‘My cats cough.’

3103 Taken together, the facts show that while the aspect split is clearly relevant to possessor  
 3104 displacement, this phenomenon is subject to additional restrictions as well. On the face of  
 3105 it, these further restrictions look very much like those found in languages that show what is  
 3106 described as *possessor raising*, which displays what is often described as a subject/object  
 3107 asymmetry (e.g., Deal 2017b). As will be shown below, though, for Sorani it is possible to  
 3108 derive such restrictions from case-specific factors.

3109 The points developed above are summarized as the Generalizations (G1) and (G2):<sup>9</sup>

<sup>9</sup> Our generalization (G2) differs from another set of proposals in the literature which revolve around the avoidance of clitic-clusters or clitic-stacking. Due to the alignment patterns at play, the possible stacking scenarios would typically arise in the perfective aspect, since it is there that the Subject of a transitive is indexed by an MP Clitic.

With this in mind, Öpengin (2016:188) argues that when MP clitics would potentially occur in a sequence, one of them is ‘disformed’ into an MP agreement affix, and realized on the verb. This is what causes the displacement of the MP clitic =*man* onto the verb as an MP agreement -*in* in (10b), repeated here as (i).

- (i) Otombel-aka=**yan** bird-*în*  
 car-the=3PL.CL took-1PL  
 ‘They took our car away.’ (SSK)

Kahnemuyipour and Taghipour (2020) argue for the same restriction, i.e., a prohibition on clitic-stacking, for the language Laki. Karimi (2021) proposes a more restrictive version of clitic-stacking avoidance, which allows only one (MP) clitic per clause.

Details of implementations aside, the problem for this type of account is that clitic stacking is indeed found in several varieties that show P-argument displacement, including SSK, as we will see below (cf. (33b), (34b) as well as the examples in fn. 25); Haig 2008 has additional examples; see also Holmberg and Odden 2004 on Hawrami.

Secondly, in GK, the counterpart of (i) is (ii), in which two MP clitics are able to appear in a sequence. The same pattern holds for the ditransitives. Contrast SSK (iii-a), with (iii-c) from GK.

- (ii) Otomobel-eke=**man=yan** bird  
 car-the=1PL.CL=3PL.CL took  
 ‘They took our car away.’ (GK)

3110 (G1) Possessors and P-arguments can be moved and realized as MP agreement, but only  
3111 in the perfective.

3112 (G2) Possessor realization as MP Agreement happens only when the possessor originates  
3113 on a DO argument.

3114 As we will now show, P-argument Displacement is restricted in a way that is parallel to  
3115 (G2).

### 3116 5.1.2 P(repositional) arguments

3117 Above we saw initial examples of displacement affecting the objects of prepositions. In  
3118 beginning our more detailed look at this phenomenon, we will look at a broader range of  
3119 elements which we refer to collectively as *P-arguments*. In addition to ditransitives with  
3120 an IO inside a PP introduced earlier this includes some additional types of prepositional  
3121 phrases, as well as causative constructions. We note before proceeding that the discussion  
3122 of this section also introduces comparisons between SSK and GK, which differ in terms of  
3123 how P-arguments are displaced.

3124 We have found (in agreement with other works cited at the beginning of this section)  
3125 that MP Agreement Displacement for P-arguments is found only in the perfective in SSK.  
3126 For this reason, we will present most of the examples in the perfective. As with Possessors,  
3127 though, this restriction by itself does not correctly characterize when P-argument displace-  
3128 ment can occur, as we will now show.

3129 As a first illustration of P-argument displacement, consider the productive causative  
3130 formed with *wa ... ka* ‘such to make’ (Amin 1979). Focusing on the relevant parts of the con-  
3131 struction, we see that the causee associated with the preposition *lê* can remain in situ inside  
3132 the PP, as in (27a). However, the typical (or unmarked) situation in SSK is for the pronom-  
3133 inal complement of P to be realized on the matrix verb ‘to make’, as an MP agreement; see  
3134 (27b). In GK, on the other hand, the typical (i.e. unmarked) scenario involves realizing the  
3135 causee as an MP clitic, and attaching it to the clitic host, which is *wa* in (27c). The exam-  
3136 ple in (27d) illustrates a configuration where the embedded Direct Object is pronominal as  
3137 well; as such it leans onto the licit clitic host subjunctive *bi-*.

- 
- (iii) a. ew      ême=y      bo nard-in  
          3SG.pro us=3SG.CL to sent-3PL  
          ‘S/he sent us to them.’ (SSK)
- b. ew      ême=y      bo=yan      nard  
          3SG.pro us=3SG.CL to=3PL.CL sent  
          ‘S/he sent us to them.’ (GK)
- c. ?ew      ême=yan=i      bo nard  
          3SG.pro us=3PL.CL=3SG.CL to sent  
          ‘S/he sent us to them.’ (GK)

Taken together, these observations suggest that displacement effects in SSK and GK are not motivated by a prohibition on clitic cooccurrence.

- 3138 (27) a. êwe wa=tan lê=**man** kird šerbet-ek-an bi-xo-yn-(ewe).  
 2PL.pro such=2PL.CL to=1PL.CL made juice-the-PL SBJV-drink-1PL-(HAB)  
 3139 ‘You made us drink the juices.’ (GK/SSK)
- 3140 b. êwe wa=tan lê-kird-în šerbet-ek-an bi-xo-yn-(ewe).  
 2PL.pro such=2PL.CL to-made-1PL juice-the-PL SBJV-drink-1PL-(HAB)  
 3141 ‘You made us drink the juices.’ (SSK)
- 3142 c. êwe wa=**man**=tan lê kird šerbet-ek-an bi-xo-yn-(ewe).  
 2PL.pro such=1PL.CL=2PL.CL to made juice-the-PL SBJV-drink-1PL-(HAB)  
 3143 ‘You made us drink the juices.’ (GK)
- 3144 d. êwe wa=**man**=tan lê kird bi=yan xo-yn-(ewe).  
 2PL.pro such=1PL.CL=2PL.CL to made SBJV=3PL.CL drink-1PL-(HAB)  
 3145 ‘You made us drink them (the juices).’ (GK)

3146 The same pattern is also observed in another type of causative that is available for  
 3147 unergative predicates. Consider the verb ‘to jump’, whose non-causative form is given  
 3148 (28a). Both in SSK and GK, it is possible (though somewhat marginally in SSK) to realize  
 3149 the causee on the preposition *pê* with which it is associated, (28b). In SSK, the causee is  
 3150 typically realized on the verb as an MP agreement, (28c). In GK, the causee can be realized  
 3151 as an MP clitic on the clitic host, (28d).<sup>10</sup>

- 3152 (28) a. baz=**man** da  
 jump=1PL.CL did  
 3153 ‘We jumped.’ (GK/SSK)
- 3154 b. baz=yan pê=**man** da  
 jump=3PL.CL to=1PL.CL did  
 3155 ‘They made us jump.’ (GK/SSK)
- 3156 c. baz=yan pê-da-yn  
 jump=3PL.CL to-did-1PL  
 3157 ‘They made us jump.’ (SSK)

<sup>10</sup>It might be thought that leaving the P-argument in-situ in SSK is disallowed across the board. However, a general ban of this type is too strong. In addition to many examples we provide in this study (and two examples below), the literature contains many examples in which the P-argument remains in-situ. In fact, in certain configurations, e.g., (i) and (ii) below, it is not possible to displace the P-argument.

- (i) a. le=**man** kewt-*in*.  
 from=1PL.CL fall.PRS-3PL  
 ‘They fell off from us.’ (i.e., we lost them)
- b. \*le kewt{-*in-în/-în-in*}.  
 from fall.PRS-3PL-1PL/-1PL-3PL  
 Intended: ‘They fell off from us.’
- (ii) bo=**tan=î** bang e-ke-*m*.  
 for=2PL.CL=3SG.CL call IND-do.PRS-1SG  
 ‘I shall call him for you.’

(Edmonds 1955:498)

3158 d. baz=**man**=yan pê da  
 jump=1 PL.CL=3 PL.CL to did  
 3159 ‘They made us jump.’ (GK)

3160 Turning to structures with complements to prepositions, we find the same patterns. The  
 3161 1sg prepositional object in (29a) is realized on the verb as an MP agreement in SSK. The  
 3162 P-argument can be realized in situ in GK, (29b); while this is disallowed for many SSK  
 3163 speakers, it is marginally acceptable for some. (29c) illustrates a configuration in GK in  
 3164 which the P-argument has moved onto a higher host (MP Clitic Displacement), which is  
 3165 fully grammatical for many, and slightly marginal for some. Finally, both varieties allow  
 3166 the PP to be in postverbal position (with some effects on focus); when this happens, the  
 3167 IO remains inside the PP, as in (29d); presumably moving out of the post-verbal PP would  
 3168 strand the proclitic preposition:

- 3169 (29) a. xelk lê=yan de-kirrî-*m*.  
 people from=3 PL.CL PROG-buy.PST-1 SG  
 3170 ‘People were buying from me.’ (SSK; Kareem 2016:101, (11))  
 3171 b. xelk lê=**m**=yan de-kirrî.  
 people from=1 SG.CL=3 PL.CL PROG-buy.PST  
 3172 ‘People were buying from me.’ (GK, and % in SSK)  
 3173 c. (?)xelk ew=**im**=yan lê de-kirrî.  
 people it=1 SG.CL=3 PL.CL from PROG-buy.PST  
 3174 ‘People were buying it from me.’ (GK)  
 3175 d. xelk de=yan kirrî lê=**m**.  
 people PROG=3 PL.CL buy.PST from=1 SG.CL  
 3176 ‘People were buying from me.’ (GK/SSK)

3177 The following ditransitives illustrate the same pattern:

- 3178 (30) a. ew ême=y bo=**yan** nard  
 3 SG.pro us=3 SG to=3 PL.CL send.PST  
 3179 ‘S/he sent us to them.’ (GK/?SSK)  
 3180 b. ew ême=**yan**=î bo nard  
 3 SG.pro us=3 PL.CL=3 SG to send.PST  
 3181 ‘S/he sent us to them.’ (GK/\*SSK)  
 3182 (31) a. ew bo=**yan**=**man** e-nêrê-t  
 3 SG.pro to=3 PL.CL=1 PL.CL IND-send.PRS-3 SG  
 3183 ‘S/he sends us to them.’ (GK/SSK)  
 3184 b. ew ême=**yan** bo e-nêrê-*t*  
 3 SG.pro us=3 PL.CL to IND-send.PRS-3 SG  
 3185 ‘S/he sends us to them.’ (GK/SSK)

3186 To summarize, Garmiani Kurdish has MP-Clitic displacement across the board and  
 3187 lacks MP-Agreement displacement. On the other hand, SSK standardly has MP-Agr dis-  
 3188 placement in the perfective. Interestingly, as illustrated in (31b), which we elaborate on  
 3189 more below, MP-Clitic displacement is indeed possible in SSK, but only in the imperfec-  
 3190 tive, and not perfectives (cf. (30b)).

3191 Reaching back to the previous chapter, we noted in our initial discussion of MS Agree-  
 3192 ment and MS Clitic Movement that in Sorani a given head Agrees only with one argument,  
 3193 but may Clitic-Move more than one. Since we were dealing there only with transitives,  
 3194 the latter possibility was not illustrated. We now show with ditransitives why MS Clitic  
 3195 Movement must operate in this way.

3196 Starting with Garmiani, both internal arguments are Accusative, and realized in clitic  
 3197 form. Both of these are MS Clitic Moved. When the clitic agreeing with an Ergative subject  
 3198 is taken into account as well, it can be seen that in certain situations, it is possible for there  
 3199 to be three MP Clitics on the same host, as shown in (32):

- 3200 (32) a. xwâ bo=**man=yan=î**                      nard  
           God to=1PL.CL=3PL.CL=3SG.CL send.PST  
 3201           ‘God sent them to us.’
- 3202       b. ?to       nîshan=**yan=man=it**                      da  
           2SG.pro show=3PL.CL=1PL.CL=2SG.CL give.PST  
 3203           ‘You showed them to us.’
- 3204       c. to       nîshan=**im=yan=it**                      da  
           2SG.pro show=1SG.CL=3PL.CL=2SG.CL give.PST  
 3205           ‘You showed me to them.’<sup>11</sup> (GK)

3206 Certain discourse conditions have to be met by the referents involved in examples of this  
 3207 type; though grammatical, speakers report such examples to be somewhat degraded due  
 3208 perhaps to salience and other effects arising from the conditions regulating clitic realization  
 3209 (e.g. processing difficulties).

3210 Strikingly, SSK shows the same type of effect, but in a way that involves multiple MP-  
 3211 agreement markers. In SSK, DOs have Objective case in the past tense, and can be realized  
 3212 as MP Agreement. The same is true of certain IOs, producing ‘double’ MP Agreement  
 3213 marking. For example, in (33a) and (34a), the DO is realized as an MP agreement, whereas  
 3214 the IO left in-situ (noting again that leaving the prepositional object in-situ is disfavored).  
 3215 On the other hand, in (33b) and (34b), the IO is also realized as an MP agreement on the  
 3216 verb.<sup>12</sup>

<sup>11</sup>Note that the order of MP clitics is different with and without a preposition host. When a preposition is the host, the prepositional argument, which is the IO, is closest to it followed by the DO, as in (32a). However, when another host is available, such as the nonverbal element in (32b) and (32c), the order is DO-IO. This might be explored in terms of the relative steps of a derivation, but we leave this and other aspects of clitic ordering for future investigation.

<sup>12</sup>This effect has also been noted in the descriptive literature; cf.

- 3217 (33) a. pê=**man**=î                      dâ-*n*.  
to=1PL.CL=3SG.CL gave-3PL  
3218 ‘S/he gave them to us.’ (SSK; Samvelian 2008:47a)
- 3219 b. pê=*y*                      dâ-*n-în*.  
to=3SG.CL gave-3PL-1PL  
3220 ‘S/he gave them to us.’ (SSK; Samvelian 2008:47b)
- 3221 (34) a. xwâ bo=**man**=î                      nard-*in*  
God to=1PL.CL=3SG.CL sent-3PL  
3222 ‘God sent them to us.’ (SSK)
- 3223 b. xwâ bo=*y*                      nard-*în-in*  
God to=3SG.CL sent-1PL-3PL  
3224 ‘God sent them to us.’ (SSK, cf. (32a))

3225 As expected, this behavior has been reported to arise only in the SSK perfective system  
3226 (e.g., Kareem 2016; Mohammadirad 2020b). Our SSK consultants share this intuition. In  
3227 the imperfective, the P-argument can be displaced, but this time it surfaces as an oblique MP  
3228 clitic, not as MP Agreement, as seen in (35-36) (these are grammatical in GK as well):<sup>13</sup>

- 
- (i) xwâ bo=*y*                      nard-*im-î(t)*.  
God to=3SG.CL sent-1SG-2SG  
‘God sent you.sg to me.’ (Edmonds 1955:502)
- (ii) xwâ lê=*y*                      send-*im-in*  
God from=3SG.CL take.PST-1SG-PL  
‘God took them (or you.pl) from me.’ (Edmonds 1955:502)
- (iii) dâ=**m-îr-in**=ê  
gave=1SG.CL-2SG-3PL-DIREC  
‘I gave you to them.’ (MacKenzie 1961: 116; as cited in Haig 2008:294, (335))

Regarding the final *ê* in the last example, Haig notes: “The final *-ê* in [335], glossed here as DIREC, is analyzed by MacKenzie (1961:123) as the ‘absolute’ form of the preposition a ‘to’. For the present purposes it suffices to note that this clitic is regularly attached to verbs of speech and giving, although its semantic contribution to the verb remains unclear.”

See also Edmonds (1955); Samvelian (2007a) for additional examples.

<sup>13</sup> More examples of the IO clitic moving to the *Ø* as a clitic in the imperfective come from other Central Kurdish varieties such as Baneh Central Kurdish or Naeini, which behave like SSK in other relevant aspects (e.g., realization of DO or P-arguments as MP agreement on the verb).

- (i) a. dâstân-êk=**tân** bo bi-gêr-*im*  
story-a=2PL.CL for IRR-narrate.PRS-1SG  
‘That I narrate a story to you.’ (BCK; Mohammadirad 2020b:351,(829))
- b. dot=**om-oş**=ji                      ve ti  
girl=1SG.CL=3SG.CL=ADD to give.PRS.1SG  
‘I will give my daughter to him as well.’ (Naeini; Lecoq 2002: 502, as cited in Mohammadirad 2020b:264,(674))

- 3229 (35) a. ew ême bo=**yan** e-nêrê-*t*  
 3SG.pro us to=3PL.CL IND-send-3SG  
 3230 ‘S/he sends us to them.’  
 3231 b. ew ême=**yan** bo e-nêrê-*t* (\*ew ême bo e-nêrê-*t-in*)  
 3SG.pro us=3PL.CL to IND-send-3SG  
 3232 ‘S/he sends us to them.’ (SSK/GK)  
 3233 (36) dyarî-êk=**tan** bo e-hên-*în*  
 gift-a=2PL.CL for IND-bring-1PL  
 3234 ‘We shall bring a gift for you.’ (Edmonds 1955:498)

3235 In fact, in some constructions, movement of a P-argument as an oblique clitic seems  
 3236 strongly preferred, to the extent that examples with it in situ are highly degraded. For exam-  
 3237 ple, in (37a), the P-argument is realized on the DO, and it is not possible for it to remain in  
 3238 situ, as shown in (37b).<sup>14</sup> As expected, given that the example is imperfective, we observe  
 3239 that realization of the P-argument on the verb as an MP agreement like in (37c) is also  
 3240 disallowed.

- 3241 (37) a. Azad dyarî-eke=**yan** pê=de-d-*at*  
 Azad gift-the=3PL.CL to=IND-give.PRS-3SG  
 3242 ‘Azad will give the gift to them.’  
 3243 b. \*Azad dyarî-eke pê=**yan** de-d-*at*  
 Azad gift-the to=3PL.CL IND-give.PRS-3SG  
 3244 ‘Azad will give the gift to them.’  
 3245 c. \*Azad dyarî-eke pê-de-d-*at-in*  
 Azad gift-the to-IND-give.PRS-3SG-3PL  
 3246 ‘Azad will give the gift to them.’

- 
- (ii) nān=**mān** laḡal bi-xô!  
 food=1PL.CL with IRR-eat.PRS.2SG  
 ‘Eat a meal with us.’ (CK; Haig 2007:168,(1))

Note that the displaced clitic skips over non-licit clitic hosts, like the adverbs in (iii), as also shown with other examples in the book (e.g., (i) in Fn. 5):

- (iii) a. aw qīsa=**t**-a har bo nāyž-*im*.  
 that saying=2SG:R-DEM1 ever for NEG-say.PRS-1SG  
 ‘I will never tell you about that saying.’ (SCK; Mohammadirad 2020b:225,(516))  
 b. dabē xēwat-êk=**im** la darawa-y šār bo hal-bi-da-n  
 aux.3SG tent-IND=1SG.R in out=EZ city for PVB-IRR-give.PRS-3PL  
 ‘They will have to pitch a tent for me out of the city.’ (Thackston 2006b:24)

Thus (cf Fn. 5) the movement of the clitic cannot be accounted for in purely linear terms.

<sup>14</sup>Although we have marked (37b) with an ‘\*’ we believe that its deviance is likely to be extra-syntactic (presumably pragmatic).

3247 However, it appears that moving the clitic out of the PP is not required across the board;  
 3248 it can indeed remain in situ under certain circumstances. For example, in (38) PP occurs  
 3249 postverbally, the P-argument must be realized in situ:

- 3250 (38) *Context:* Does/will Azad give the gift to them/the children?  
 3251 belê, de=y-d-at pê=yan.  
 yes IND=3SG.CL-give.PRS-3SG to=3PL.CL  
 3252 ‘Yes, (he) will give it to them.’

3253 As noted earlier, moving the clitic here would strand the preposition. In any event, the  
 3254 grammaticality of examples like (38) establishes that the moved clitics do indeed originate  
 3255 as complements of P, and not elsewhere, as might have been thought given the pattern  
 3256 displayed in (37).

3257 As mentioned above, several prior works have called attention to the behavior of P-  
 3258 arguments in different Iranian varieties. In those that have looked at restrictions on when  
 3259 P-arguments can be realized as MP-Agreement, the majority have arrived at the conclusion  
 3260 that this behavior is found in perfective clauses, but not imperfective clauses (e.g., Haig  
 3261 2008, Gharib and Pye 2018, Öpengin 2016, Holmberg and Odden 2004, Kahnemuyipour  
 3262 and Taghipour 2020, Mohammadirad 2020b). As with the external possessors, the perfec-  
 3263 tive split accounts for part of what happens with P-arguments– realization of these argu-  
 3264 ments as MP agreement does indeed happen only in the perfective– but more needs to be  
 3265 said about the **absence** of P-argument displacement in other configurations. For example,  
 3266 the P-argument cannot be MP-Agr displaced in the imperfective unergative in (39b), as is  
 3267 expected if aspect alone played the decisive role; but something further is required to rule  
 3268 out such movement in the perfective (40b) (same property holds for unaccusatives):<sup>15</sup>

- 3269 (39) a. bo=man de-kok-in  
 for=1PL.CL IND-cough-3PL  
 3270 ‘They cough for us.’  
 3271 b. \*bo de-kok{-in-în/-în-in}  
 for IND-cough-3PL-1PL/-1PL-3PL  
 3272 ‘They cough for us.’

<sup>15</sup>We have come across a handful of examples in which the P-argument undergoes MP-Clitic displacement even in intransitives, both in other varieties and GK.

- (i) čik=î pê a-č-ê  
 little=3SG.CL to IND-go.PRS-3SG  
 ‘A while passes (on it).’ (Southern Central Kurdish, Mohammadirad 2020b:(866))
- (ii) dyarî-eke=yan pê di-ra  
 gift-the=3PL.CL to give.PRS-PASS.PST.3SG  
 ‘The gift was given to them.’ (GK)

These examples are interesting in that the clitic attaches to the subject, which is not normally a legitimate clitic host. More work is needed to determine why this is possible in this particular type of example.



- 3273 (40) a. **bo=man** kokî-n  
 for=1 PL.CL cough.PST-PL  
 3274 ‘They coughed for us.’  
 3275 b. \*bo kokî{-n-îm/-yn-in}  
 for cough.PST-PL-1 PL/-1 PL-PL  
 3276 ‘They coughed for us.’

3277 As the examples in (41) show, the same beneficiary PP does allow MP Agreement Displace-  
 3278 ment when it is used with transitives.

- 3279 (41) a. (min) kitêb-êk=im **bo=yan** kirrî  
 1 SG.pro book-a=1 SG.CL for=3 PL.CL buy.PST  
 3280 ‘I bought a book for them.’  
 3281 b. (min) kitêb-êk=im bo kirrî-n  
 1 SG.pro book-a=1 SG.CL for buy.PST-PL  
 3282 ‘I bought a book for them.’  
 3283 c. (ew) otombel-eke=man=î bo kirrî-n  
 3 SG.pro car-the=1 PL.CL=3 SG.CL for buy.PST-PL  
 3284 ‘He bought our car for them.’

3285 Passives behave in exactly the same way as intransitives; whether in the imperfective,  
 3286 (42), or the perfective, (43), the P-argument cannot be realized as MP Agreement:

- 3287 (42) a. name-k-an **bo=man** de-nêrd-irê-n  
 letter-the-PL to=1 PL.CL IND-send.PRS-PASS.PRS-PL  
 3288 ‘The letters are sent to us.’  
 3289 b. \*name-k-an bo de-nêrd-irê{-n-îm/-yn-in}  
 letter-the-PL to IND-send.PRS-PASS.PRS-PL-1 PL/-1 PL-PL  
 3290 ‘The letters are sent to us.’  
 3291 (43) a. name-k-an **bo=man** nêrd-ira-n  
 letter-the-PL to=1 PL.CL send.PRS-PASS.PST-PL  
 3292 ‘The letters were sent to us.’  
 3293 b. \*name-k-an bo nêrd-ira{-n-îm/-yn-in}  
 letter-the-PL to send.PRS-PASS.PST-PL-1 PL/-1 PL-PL  
 3294 ‘The letters were sent to us.’

3295 Once again, it appears that while aspect is clearly involved in part of what is happening  
 3296 with P-argument displacement, the operation producing this effect is also restricted in other  
 3297 ways.

3298 The generalization that holds concerning this additional factor is similar to what was  
 3299 found for possessors above: realization of a P-argument as MP Agreement happens only in  
 3300 clauses in which there is a DO argument. Taken together, then, (G1) from the last section  
 3301 and (G3) correctly state the conditions under which P-argument displacement occurs:

3302 (G1) Possessors and P-arguments can be moved and realized as MP agreement, but only  
3303 in the perfective.

3304 (G3) P-argument realization as MP Agreement happens only when there is a DO in the  
3305 same clause.

### 3306 5.1.3 Synthesis

3307 The preceding sections arrive at three generalizations that we will now explain using the  
3308 tools introduced in prior chapters. An additional goal is to show that the differences between  
3309 SSK and GK in terms of possessor/P-argument behavior can be derived directly from the  
3310 observations made in Chapter 4 (in particular, §4.5) to the effect that GK lacks the Objective  
3311 case that is found in SSK.

3312 To review, the first generalization to be explained is that realization of possessors and  
3313 P-arguments as MP Agreement in SSK is restricted to the perfective, as identified in prior  
3314 work cited above. The generalizations in (G2-3) impose further restrictions on which per-  
3315 fective clauses allow this to happen; they both point to the presence of a DO, a shared  
3316 property that calls for a unified explanation:

3317 (G1) Possessors and P-arguments can be moved and realized as MP agreement, but only  
3318 in the perfective.

3319 (G2) Possessor realization as MP Agreement happens only when the possessor originates  
3320 on a DO argument.

3321 (G3) P-argument realization as MP Agreement happens only when there is a DO in the  
3322 same clause.

3323 There are a few components involved in explaining (G1-3). At first glance, (G2) appears  
3324 (as noted above) to reflect a restriction that applies to Possessor raising in other languages,  
3325 where Possessors may raise out of Objects but not Subjects. On the assumption that what-  
3326 ever explains this restriction in other languages applies in Sorani, there would be a plausible  
3327 account of (G2). However, this explanation would be crucially incomplete– it would fail to  
3328 account for why MP Agreement Displacement happens only in the perfective (G1).

3329 In our view, it is case theory that provides a compelling and unified explanation for  
3330 (G1-3). As a first step in articulating this analysis, we will focus on the pronouns that are  
3331 moved and realized as MP agreement, (44b).

3332 (44) a. ew ême=y bo=**yan** nard  
s/he us=3SG.CL to=3PL.CL send.PST

3333 'S/he sent us to them.'

3334 b. ew ême=y bo nard-**in**  
s/he us=3SG.CL to send.PST-3PL

3335 'S/he sent us to them.'

(SSK)

3336 Whether for possessors or P-arguments, the pronouns that are targets of a movement  
 3337 operation, (44b), must be distinguished from those that are not, (44a), in order for the me-  
 3338 chanics of clitic movement to function properly. We represent the targets of movement as  
 3339  $+m$  and the ones that stay in situ as  $-m$ :

- 3340 (45) pronoun specifications
- 3341 a. moving pronoun:  $[+obl...+m]$
- 3342 b. pronoun that doesn't move:  $[+obl...-m]$

3343 Since it is simply a fact that the relevant pronouns can be realized either in situ or moved,  
 3344 some distinction like the one presented abstractly in (45) is required (although of course the  
 3345 effects of  $[\pm m]$  could be reduced to other factors or encoded in other ways).<sup>16</sup>

3346 The next step concerns the case specification of possessors and P-arguments. Recall that  
 3347 our approach to SSK employs the case distinctions that are schematized in (46):

3348 (46) abstract cases

	'Nominative'	'Ergative'	'Accusative'	'Objective'
3349 <b>subject</b>	+	+	-	-
3350 <b>oblique</b>	-	+	+	-

3351 When possessors and P-arguments are realized in situ, they are realized as MP clitics;  
 3352 on our analysis, as obliques. These arguments also undergo clitic movement; they are not  
 3353 agreed with. In terms of the cases in (46) and what we saw in Chapter 4, it appears that they  
 3354 are assigned Accusative case:

3355 (47) CASE RULE 1: Possessors/P-arguments are assigned Accusative  $[-subj,+obl]$ .

3356 A path that suggests itself for explaining (G1-G3) is to hold that (47) applies to these  
 3357 arguments only under certain conditions. What we have in mind here is the following: When  
 3358 possessors and P-arguments are realized as MP Agreement, they exhibit the properties that  
 3359 are otherwise shown by clitics assigned Objective  $[-subj,-obl]$  case in transitive clauses.  
 3360 Strikingly, they do this only when there is another argument local to them– a DO– that is  
 3361 assigned Objective case: both (G2) and (G3) point to this same idea. We therefore offer the  
 3362 hypothesis in (48):

3363 (48) HYPOTHESIS: Possessors/P-arguments behave as if they have Objective case only  
 3364 in clauses where the DO has this case.

3365 With this in mind, consider the case rule in (49):

3366 (49) CASE RULE 2: Assign Objective case to moving  $[+m]$  pronouns when a local argu-  
 3367 ment is also assigned Objective.

<sup>16</sup>See Deal (2021:15) and references cited there for discussion of the same point and a few possible options, including the option that pronominals that give rise to clitics might have a different syntax than those that do not.

3368 The intuition embodied in (49) is that while possessors and P-arguments are typically  
 3369 assigned Accusative, they can be assigned Objective in a way that reflects the presence of  
 3370 a local argument that bears this case as well. In the way that we conceive of it, (49) is  
 3371 part of the procedure that assigns abstract case features; it produces what is effectively a  
 3372 kind of case attraction or matching that requires reference to local context. The details of  
 3373 assignment could be explored further in a configurational theory of case assignment, a point  
 3374 that will be elaborated on in our discussion in Chapter 6.

3375 With moving possessor clitics, the local argument triggering (49) is the possessed DO;  
 3376 in the case of P-arguments, it is the DO as well. Since DOs are assigned Objective only  
 3377 in the perfective, the aspectual sensitivity (G1) of possessor and P-argument displacement  
 3378 reduces to the operation of (49); (G2-3) are explained by (49) as well.<sup>17</sup> The more specific  
 3379 (49) takes precedence over (47) in clauses with Objective DOs and [+m] pronouns.

3380 All other pronouns are assigned Accusative. Some such pronouns move (MP-clitic dis-  
 3381 placement), as in SSK imperfectives like those in (31), (35), (36); they are moved to  $\emptyset$ ,  
 3382 exactly like Accusative DO clitics are. In GK, the situation with P-arguments derives from  
 3383 the fact that this variety lacks the Objective case in (46). As a result, *all* P-arguments in the  
 3384 language are assigned Accusative. This accounts for the fact that when P-arguments in GK  
 3385 move, they are invariably realized as MP Clitics, (50c), and not as MP Agreement, while  
 3386 this latter is the option for SSK perfectives, (50b).

- 3387 (50) a. baz=yan pê=**man** da  
 jump=3PL.CL to=1PL.CL did  
 3388 ‘They made us jump.’ (GK/SSK)
- 3389 b. baz=yan pê-da-yn  
 jump=3PL.CL to-did-1PL  
 3390 ‘They made us jump.’ (SSK/\*GK)

<sup>17</sup>For (G2), we note that possessors of IOs cannot be realized as MP Agreement, (i), or be moved onto  $\emptyset$  as an MP-Clitic, (ii).

- (i) a. \*pare-ke be qutabîy-eke de-de-{m-*in*/-*n*-im}.  
 money-the to student-the IND-give-1SG-3PL/-3PL-1SG  
 ‘I give the money to their student.’  
 b. \*be qutabîy-ek=**im** da-{n-*în*/-*yn*-in}.  
 to student-the=1SG.CL gave-PL-1PL/-1PL-PL  
 ‘I gave them to our student.’
- (ii) a. \*pare-ke=**yan** be qutabîy-eke de-de-m.  
 money-the=3PL.CL to student-the IND-give-1SG  
 ‘I give the money to their student.’  
 b. \*pare-ke=**yan=im** be qutabîy-eke da.  
 money-the=3PL.CL=1SG.CL to student-the gave  
 ‘I gave the money to their student.’

We take this to be the result of locality—potentially in two distinct ways. For one, the possessor is in the IO, and cannot move both out of the DP it originates in and the PP. In addition, it is possible that the possessor inside of the IO is not close enough to the Objective DO to trigger (49).

3391 c. baz=**man**=yan pê da  
 jump=1PL.CL=3PL.CL to did  
 3392 ‘They made us jump.’ (GK/\*SSK)

3393 We noted above that possessor raising in many languages is restricted to possessors  
 3394 of certain arguments (see e.g., Guéron 1985, 2006; Borer and Grodzinsky 1986, and Deal  
 3395 2017a for an overview; see also section 5.6.2 below for discussion of external discussion in  
 3396 more Iranian languages). While whatever explains this type of restriction might be active  
 3397 in SSK as well (as we noted above), it is important to note that (49) accounts for it directly  
 3398 as well— especially when we consider that Case Rule 2 also accounts for the behavior of  
 3399 P-arguments, to which the restrictions on possessor raising might not be applicable.

## 3400 5.2 Non-canonical subject constructions

3401 This section focuses on what are called *non-canonical subject constructions* (NCS). These  
 3402 are important because of the unique case properties they display: in particular, Oblique  
 3403 subjects in both the perfective and imperfective aspects.

3404 Different NCS constructions in Iranian have been examined in the prior literature.<sup>18</sup> As  
 3405 we will see below, the NCS cover term applies to what turns out to be a mixed set of verbs,  
 3406 including predicative expressions of possession/existence, certain expressions of sensory  
 3407 (visual/auditory) perception and psychological states, predicates of needing/wanting or de-  
 3408 sire, and some other uncontrolled states of affairs (e.g., ‘finding something,’ ‘remembering,’  
 3409 ‘forgetting’). For a more comprehensive list, see Haig (2008).<sup>19</sup>

3410 Before we get into the details of NCS constructions in Sorani, a few notes are in order  
 3411 concerning the way in which we intend to approach them. The key theme here concerns the  
 3412 system of case features that we developed in Chapter 4. We showed there that the indexation  
 3413 system of Sorani is driven by cases that are distinguished in terms of the features [ $\pm$ subj]  
 3414 and [ $\pm$ obl], as shown in (51).

3415 (51) SSK cases

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
3416 <b>subj(ect)</b>	+	+	-	-
<b>obl(ique)</b>	-	+	+	-

3417 Part of our argument was that the cases, which are identified on the basis of indexation  
 3418 patterns that refer to them, constitute a closed system. So, for example, the behavior of  
 3419 external possessors in 5.1 above illustrates this reasoning— the possessors in question, which

<sup>18</sup>Researchers use different terms for some related construction in Persian (see section 5.6.3), which reflect the varying formal and semantic criteria they adopt: e.g., ‘compound verbs of experience’ (Barjasteh 1983); ‘indirect middle verbs’ (Windfuhr 2011); ‘subjectless constructions’ (Karimi 2005); or ‘experiencer construction’ (Jügel and Samvelian 2020). Haig (2008:305-310) describes this class as consisting of verbs of sensory perception, desire, and obligation.

<sup>19</sup>In addition, which verbs take part in NCS constructions vary to some extent across languages.

3420 behave as MS clitics that are realized as MP agreement, bear Objective case; not some  
3421 further case beyond those in (51).

3422 We stress this point because the study of NCS constructions in many language families  
3423 is often essentially a study of *Dative* subjects (e.g., [Belletti and Rizzi 1988](#); [Shibatani 2001](#);  
3424 [Bhatt 2007](#)), and we do not have a Dative case in (51). While it would certainly be possible  
3425 to add an additional feature to (51) to define Dative case, we will see below that there is  
3426 no motivation for this in the Sorani system. In particular, we will show that the subjects in  
3427 question are (i) targeted by MS agreement, with (ii) the resulting  $\varphi$ -bundle realized as an  
3428 MP clitic. That is to say, from the perspective of indexation, they behave exactly like the  
3429 other Oblique subjects in the language, i.e. as Ergative in terms of (51).<sup>20</sup>

3430 If the Ergative analysis is correct, then what sets the NCS constructions apart from what  
3431 we have seen to this point in Sorani is the way in which case is **assigned** to their subjects.  
3432 As we mentioned above, Oblique subjects are not limited to the perfective; they are also  
3433 found in the imperfective.<sup>21</sup> This is shown for the two main types of constructions that we  
3434 will analyze below; we call these the *want*-type (52) and the *clausal possession*-type, (53):

- 3435 (52) a. min kitêb=**im** de-wê.  
1SG.pro book=1SG.CL IND-want.PRS  
3436 'I want book/books.'
- 3437 b. min kitêb=**im** wîst.  
1SG.pro book=1SG.CL want.PST  
3438 'I wanted book/books.'
- 3439 (53) a. ême kitêb=**man** he-(y)e.  
1PL.pro book=1PL.CL exist-COP.PRS  
3440 'We have books.' ([Kareem 2016:137](#), (55))
- 3441 b. ême qalam-an=**man** ha-bû.  
1PL.pro pen-PL=1PL.CL exist-COP.PST  
3442 'We had some pens.' ([Thackston 2006b: 26](#))

3443 In this regard, they contrast with the vast majority of predicates in the language, which  
3444 show the aspect-based split analyzed in the previous chapter.

3445 As we have noted at various points, it is not our intention to provide a theory of case  
3446 assignment in this work. However, in the case at hand it is useful to be able to specify what  
3447 it is about NCS constructions that differs from other verbs, at least in outline. What we have  
3448 in mind is that with "typical" verbal clauses, Ergative is assigned in a way that is dependent

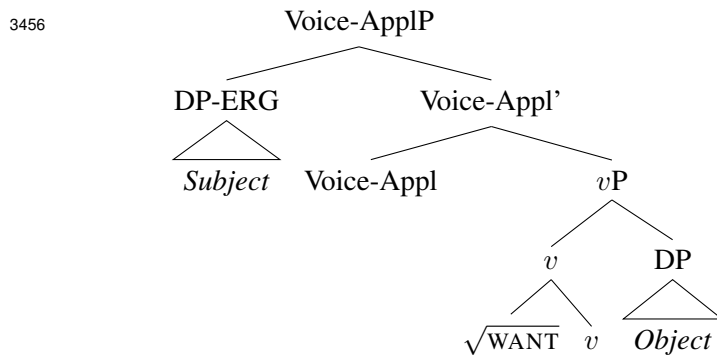
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<sup>20</sup>In Chapter 6, (sect 6.1.3), we compare Sorani with other Iranian languages of the Pamiri sub-family, and show that while Dative is motivated for the Pamiri languages both in terms of morphological realization and syntactic behavior, neither of these motivations apply to Sorani.

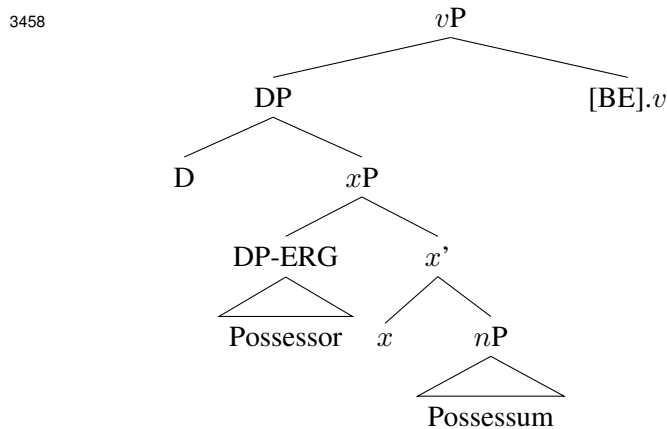
<sup>21</sup>Similar effects are seen in Kurdish varieties that exhibit overt case marking on DPs, in that the subject bears oblique case in both perfective and imperfective aspects. See [Thackston \(2006a\)](#), [Haig \(2008:306\)](#), [Akkuş \(2020\)](#). Our analysis aligns with [Akkuş \(2020\)](#), which takes parallel constructions in Kurmanji and Zazaki to have *inherent ergative* on the basis of the partial agreement phenomenon.

3449 on aspect (presence or absence of Asp[perf]). On the other hand, assignment of the Ergative  
 3450 case features in NCS clauses is not aspect-dependent in this way; it is **inherent**. In the  
 3451 analysis that we will develop below, this inherent Ergative assignment is the result of the  
 3452 structures in which the subjects of NCS clauses are generated; in one type it is assigned to  
 3453 the specifier of an Applicative (Voice) head (54); while in the possessive construction (55),  
 3454 it is assigned by a head  $x$  that appears internally to the possessed DP.<sup>22</sup>

3455 (54) Structure for *want*-type



3457 (55) Possessive structure



3459 While both of these structures produce inherent Ergative case, the structural differences  
 3460 between the *want*-type (54) and the *possessive*-type (55) have some consequences for the  
 3461 **non-subject** argument that they co-occur with. As we will see below, the former type is  
 3462 effectively a kind of transitive, whose non-subject is a DO that always receives Objective  
 3463 case. On the other hand, the non-subject in possessive constructions appears to have Nom-  
 3464 inative case, and can enter into MS agreement with Tense (in a way that is subject to some  
 3465 further complications that we will present below).

<sup>22</sup>Later we will consider an alternative to (55) that differs minimally with respect to how the head  $x$  func-  
 tions.

3466 In summary form, the analyses we develop are stated in (56):

3467 (56) Case properties of NCS verbs

3468 a. *want*-type: Transitive but with inherent (=not Aspect dependent) Ergative for  
3469 the subject; the object is Objective.

3470 b. *have*-type: The possessor has Ergative case; the possessum is Nominative.

3471 Beyond the two types listed in (56), Ergative subjects in both aspects are also found  
3472 with a small number of monadic intransitive predicates with what are typically taken to be  
3473 Experiencer subjects. This is illustrated in (57).

3474 (57) a. min serma=**m**-e.  
1SG.pro cold=1SG.CL-COP.PRS

3475 'I am cold.'

3476 b. min serma=**m** bû.  
1SG.pro cold=1SG.CL COP.PST

3477 'I was cold.' (Kareem 2016:141, (63))

3478 We take these to involve structures in which Ergative is an inherent case assigned to the  
3479 sole argument of the clause, following Baker and Atlamaz 2014; Akkuş 2020, and will not  
3480 examine them further here.<sup>23</sup>

3481 To provide context for the discussion to come, it should be noted that in parts of the liter-  
3482 ature, all NCSs are sometimes treated as syntactically intransitive, (see e.g. Mohammadirad  
3483 2020b). An implication of this view is that the subject-like argument in NCSs is not a typical  
3484 subject, a view also argued for in Karimi (2005: ch. 2.4.) (see Fn. 58 for more discussion).  
3485 Our analysis of NCS clauses in Sorani leads to the conclusion that the oblique-marked argu-  
3486 ment in fact does uniformly exhibit the behavior of a typical grammatical subject, with the  
3487 possessive structure introducing a type of dual-subject agreement (see Doron and Heycock  
3488 2010 for the notion of 'double/broad subject' argued to exist in various languages).

### 3489 5.2.1 Non-canonical subjects of the *want* type

3490 This section examines *want*-type predicates in more detail. Further examples are given in  
3491 (58), both with a common object as well as when the verb embeds a subjunctive clause.  
3492 More relevant for our purposes are the examples in (59), where the object is realized as MP  
3493 Agreement in both aspects.<sup>24</sup>

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<sup>23</sup>Comparatively speaking, these are similar to predicates in e.g. Icelandic that require dative, (23), or geni-  
tive case (Svenonius 2006).

(i) Henni var kalt.  
she.DAT was cold  
'She was cold.' (Icelandic; Sigurðsson 2002:692, (711))

For how assignment might work, see Akkuş 2020 for a specific implementation.

<sup>24</sup>In the varieties of Sorani that we have examined, thus far only *want* shows the behavior that we analyze in  
this section. We speak of it as exemplifying a type because (i) it is possible that verbs we have yet to examine



- 3494 (58) a. (ew) am shitâna=**y** nâ-we  
 3SG.pro these things=3SG.CL NEG-want.PRS  
 3495 ‘He doesn’t want these things.’ (Thackston 2006b: 35; slightly modified)  
 3496 b. de=**m** (e)we(t) bi=**t** bîn-im  
 IND=1SG.CL want SBJV=2SG.CL see.PRS-1SG  
 3497 ‘I want to see you.’ (=I want [that I see you])  
 3498 (59) a. (ewan) de=**yan** ewe-*yn*  
 3PL.pro IND=3PL.CL want.PRS-1PL  
 3499 ‘They want us.’  
 3500 b. (ewan) wîsti=**yan-în**.  
 3PL.pro want.PST-3PL.CL-1PL  
 3501 ‘They wanted us.’

3502 Various diagnostics demonstrate that the element co-indexed with the oblique-clitic in  
 3503 NCSs, e.g., *ewan* (59), indeed displays the properties typical of grammatical subjects, and  
 3504 that the non-subject argument that can be realized as MP agreement like *-yn* bears Objective  
 3505 case.

3506 In other words, with the exception of the inherent Ergative on the subject (and corre-  
 3507 sponding Objective on the non-subject) *want*-clauses behave like typical transitives.

3508 A first piece of evidence regarding the status of the non-subject argument comes from  
 3509 Garmiani Kurdish, which shows a double-oblique pattern with *want*, (60). As seen in Chap-  
 3510 ter 4, this is what is expected in typical GK transitive clauses, but not in intransitives:

- 3511 (60) a. e=**man=yan** (h)ewe.  
 IND=1PL.CL=3PL.CL want.PRS  
 3512 ‘They want us.’ (GK; cf. (59a))  
 3513 b. wîsti=**man=yan**.  
 want.PST=1PL.CL=3PL.CL  
 3514 ‘They wanted us.’ (GK)

3515 Second, it is possible to passivize NCS clauses, such that the underlyingly non-subject  
 3516 argument raises to become the grammatical subject, (61). This is again what is expected for  
 3517 transitive clauses.

- 3518 (61) ême wîst-ra-w-*în* (lâ layan ewan-ewe)  
 1PL.pro want-PASS.PST-PERF-1PL from side them-ITER)  
 3519 ‘We have been wanted (by them).’

3520 Third, we observe the indexer-overt argument complementarity that is typical of internal  
 3521 arguments bearing Objective case, suggesting again a transitive structure:

---

in Sorani pattern the same way, and (ii) it is conceivable that other Iranian varieties have larger classes of verbs of this type. See also Fn. 34.

3522 (62) \*ewan ême=**yan** de-we-yn.  
 3PL.pro us=3PL.CL IND-want.PRS-1PL  
 3523 ‘They want us.’

3524 Fourth, depictive secondary predicates point to the same conclusion. Similar to many  
 3525 languages, as illustrated for English in (63), depictives can modify subjects and direct ob-  
 3526 jects, but not indirect objects or other oblique elements.

- 3527 (63) a. I ate the meat<sub>1</sub> raw<sub>1</sub>. (DO)  
 3528 b. I<sub>1</sub> read the story tired<sub>1</sub>. (Subject)  
 3529 c. I<sub>1</sub> told John<sub>2</sub> the news drunk<sub>1/\*2</sub>. (\*IO)  
 3530 d. John<sub>2</sub>, I<sub>1</sub> told him the news drunk<sub>1/\*2</sub>.

3531 This is illustrated in (64) for SK:

- 3532 (64) a. (ew) gošt-eke=**y** be xawî xward  
 3SG.pro meat-the=3SG.CL in rawness eat.PST  
 3533 ‘He ate the meat<sub>1</sub> raw<sub>1</sub>.’ (DO)  
 3534 b. min kitêb-eke=**m** be serxoši de-xwênd  
 1SG.pro book-the=1SG.CL in drunk PROG-read.PST  
 3535 ‘I<sub>1</sub> was reading the book drunk<sub>1</sub>.’ (Subject)  
 3536 c. min name-k-an=**im** be serxoši bo=**yan** nard  
 1SG.pro letter-the-PL=1SG.CL in drunk to=3PL.CL sent  
 3537 ‘I<sub>1</sub> sent the letters to them<sub>2</sub> drunk<sub>1/\*2</sub>.’ (\*IO)

3538 The oblique-clitic bearing experiencers behave like typical subjects in this regard, (65). The  
 3539 non-subject argument as well can also license depictives, as shown in (66).

- 3540 (65) min šerbete-ke=**m** (be serxoši) de-wê-(ê)t.  
 1SG.pro juice-the=1SG.CL in drunk IND-want.PRS-3SG  
 3541 ‘I<sub>1</sub> want the juice drunk<sub>1</sub>.’  
 3542 (e.g., when I am drunk, I crave for the juice.)  
 3543 a. (ew) gošt-eke=**y** (be birsêtfî) de-wê-(ê)t.  
 3SG.pro meat-the=3SG.CL in hunger IND-want.PRS-3SG  
 3544 ‘S/he<sub>1</sub> wants the meat hungry<sub>1</sub>.’  
 3545 (e.g., when s/he is hungry, otherwise s/he doesn’t like it that much).’

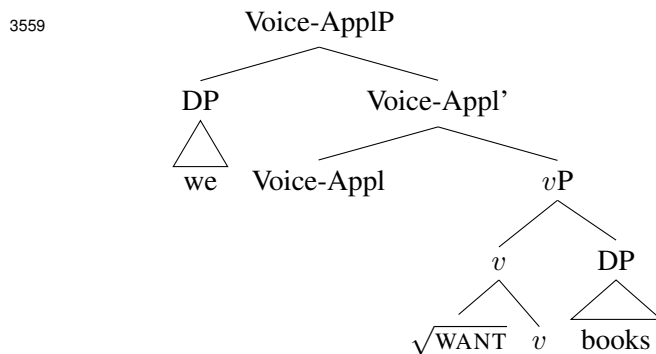
- 3546 (66) min gošt-eke=**m** (be xawî) de-wê-(ê)t.  
 1SG.pro meat-the=1SG.CL in rawness IND-want.PRS-3SG  
 3547 ‘I want the meat<sub>1</sub> raw<sub>1</sub>.’

3548 The conjunction reduction diagnostic used in chapter 3 (section §3.3) also demonstrates  
 3549 that experiencer subjects behave on par with canonical subjects in terms of deletion under

3550 identity in a coordinated clause. Finally, it can be observed throughout the examples above  
 3551 that experiencer subjects do not serve as hosts for oblique clitics, while the theme/patient  
 3552 argument does. This further suggests that experiencer arguments display the behavior that  
 3553 is typical of subjects in other types of clauses, while the non-subject argument shows the  
 3554 behavior that is typical of an object.

3555 To sum up, *want*-type NCSs involve Ergative/Objective alignment in SSK, and Erga-  
 3556 tive/Accusative in GK, in both perfective and imperfective.<sup>25</sup> The structure for these verbs  
 3557 is shown in (67):

3558 (67) Structure for *want*-type



3560 The generalization concerning this type is as follows:

3561 (G4) Certain predicates have inherently oblique subjects in both aspects; the  $\theta$  head agrees  
 3562 with them. DOs in such clauses bear Objective case in SSK; Accusative in GK.

<sup>25</sup> All else equal, it might be expected that SSK objects with *want* to allow possessor displacement of the type analyzed in the last section, since it bears Objective case. However, this does not seem to be possible:

- (i) a. min kitêb-eke-**yan=im** de-wê.  
 1 SG.pro book-the-their=1 SG.CL IND-want.PRS  
 'I want their book.'
- b. \*min kitêb-eke=**m** de-wê-n.  
 1 SG.pro book-the=1 SG.CL IND-want.PRS-PL  
 'I want their book.'
- c. min kitêb-eke-**yan=im** wîst.  
 1 SG.pro book-the-their=1 SG.CL want.PST  
 'I wanted their book.'
- d. \*min kitêb-eke=**m** wîst-in.  
 1 SG.pro book-the=1 SG.CL want.PST-PL  
 'I wanted their book.'

This observation raises questions about how the lexical semantics of the verb interacts with possessor raising. Crosslinguistically, it has been shown that stative predicates are dispreferred, with acceptability in some languages can be improved depending on the context (e.g. Spanish, Tuggy (1980), as cited in Deal (2013:11)). In Sorani, asymmetries are found within eventive verbs, such that some eventive predicates (e.g., 'take away', 'tear') allow possessor raising, while some others (e.g., 'drive') are strongly dispreferred by speakers.

3563 While the external argument in typical transitive clauses is introduced by canonical Voice,  
 3564 in (67) it is introduced by an Applicative (Voice) head, which assigns inherent Ergative to it.  
 3565 Beyond this, though, the clause is transitive in the ways shown above. On this last point, note  
 3566 that the possibility of Objective case on non-subject argument in the *want*-type is dependent  
 3567 on the Ergative case on the subject. Thus, it appears that Objective is not triggered by the  
 3568 aspect split per se.

### 3569 5.2.2 Clausal Possession

3570 In Sorani varieties (and in many Iranian languages more generally) possessive clauses of the  
 3571 type translated with English *have* show Ergative subjects in both aspects, and involve the  
 3572 existential particle *ha-/he-* and the copula *bûn*.<sup>26</sup> Illustrations of this type of clause, which  
 3573 we refer to as *clausal possession*, are given in (68).

- 3574 (68) a. min komelek kitêb=**im** he-(y)e.  
 1SG.pro several book=1SG.CL exist-COP.PRS  
 3575 ‘I have several books.’  
 3576 b. ême kitêb=**man** he-(y)e.  
 1PL.pro book=1PL.CL exist-COP.PRS  
 3577 ‘We have books.’ (Kareem 2016:137, (55))  
 3578 c. qalam-an=**man** ha-bû.  
 pen-PL=1PL.CL exist-COP.PST  
 3579 ‘We had some pens.’ (Thackston 2006b: 26)

3580 The *ha/he* particle and the copula are also used in simple assertions of existence, as  
 3581 exemplified in (69). The obligatoriness of agreement as seen (69c) will play a role in the  
 3582 later discussion as well, as it provides an important point of contrast with clausal possession  
 3583 where agreement with the corresponding argument is optional.

- 3584 (69) a. mirôv-ak he-(y)e.  
 man-a exist-COP.PRS  
 3585 ‘There is a man.’  
 3586 b. mirôv-ak ha-bû.  
 man-a exist-COP.PST  
 3587 ‘There was a man.’  
 3588 c. zor qutabi le baxche-ke-da he-bu-\*(n).  
 many student at garden-the-LOC exist-COP.PST-PL  
 3589 ‘There were many students (in the garden).’

3590 In terms of semantic interpretation, clausal possession is not limited to *ownership*-  
 3591 related possession, but can also be used for a number of other meanings of the type surveyed

<sup>26</sup>This seems to hark back to existential/copular stem in the Old Iranian period that was used to establish a possessive relation, which itself goes back to the Indo-European verbal stems *\*Hes-* and *\*b<sup>h</sup>euH* (Moham-madirad 2021:504). Some examples from Old Persian can be found in 5.6.2 below.

3592 in Myler (2016). For the sake of completeness, we provide examples for each type in (70)  
 3593 through (75), with the optional agreement with the possessum illustrated when available.<sup>27</sup>

3594 (70) *Ownership*

- 3595 a. min se kiteb=**im** he-ye / he-n.  
 1 SG.pro three book=1 SG.CL exist-COP.PRS / exist-COP.PRS.PL  
 3596 ‘I have three books.’  
 3597 b. eme chend xanu-yek=**man** he-bu-(n)  
 1 PL.pro several house-a=1 PL.CL exist-COP.PST-PL  
 3598 ‘We had several houses.’

3599 (71) *Kinship*

- 3600 a. min xushk-ek=**im** he-ye.  
 1 SG.pro sister-a=1 SG.CL exist-COP.PRS  
 3601 ‘I have a sister.’  
 3602 b. min se xushk=**im** he-ye / he-n.  
 1 SG.pro three sister=1 SG.CL exist-COP.PRS / exist-COP.PRS.PL  
 3603 ‘I have three sisters.’

<sup>27</sup>In the literature, examples with only default agreement are found (Thackston 2006b; Kareem 2016). While default agreement is indeed the preferred form for the native speaker co-author and our consultants as well, the form agreeing with the possessum is also acceptable in Sorani in all configurations except for body-part and attribute. The latter is interpreted as singular generally, so it is not a candidate for optional plural agreement in the first place. The absence of plural agreement with body parts might be the manifestation of a type of alienable-inalienable distinction; we put this type of example to the side in the rest of the discussion.

For other varieties, see also Holmberg and Odden (2004) for gender agreement and Holmberg (2004) for number agreement with the possessum in a variety of Hawrami, along with the agreement with the possessor realized as MP clitic.

- (i) a. Žiwa=m hæn-æ  
 Žiwa=1 SG.CL exist-3F  
 ‘I have Zhiwa.(f)’ (Hawrami, Holmberg and Odden 2004:44)  
 (ii) a. ktew=m hæn  
 book=1 SG.CL exist.PRS.3SG  
 ‘I have a book.’ (Hawrami, Holmberg 2004, as cited in Kareem 2016:137,(56a))  
 b. ktew-e=mân hæn-e  
 book-PL=1 PL.CL exist.PRS-3PL  
 ‘We have books.’ (Hawrami, Holmberg 2004, as cited in Kareem 2016:137,(56b))

Similarly, clausal possession in Southern Balochi also involves agreement both with the possessor and the possessum. Consider the 3pl agreement with the possessum in (iii) (although note that plurality is not marked on the argument). See Section 5.6.2 for more illustrations.

- (iii) mæn-a ketab=on hæst-ænt  
 1 SG.pro-OBL book=1 SG.CL be-3PL  
 ‘I have the books.’ (Southern Balochi, Hamo and Meihami 2023:22)

3604 c. min se xushk=im he-bu-(n).  
 1SG.pro three sister=1SG.CL exist-COP.PST-PL  
 3605 ‘I had three sisters.’

3606 (72) *Part-whole*

3607 a. em meze chwar qach-i behezi he-ye / he-n.  
 this table four leg-EZ sturdy exist-COP.PRS / exist-COP.PRS.PL  
 3608 ‘This table has four sturdy legs.’

3609 b. em meze chwar qach-i behezi he-bu-(n).  
 this table four leg-EZ sturdy exist-COP.PST-PL  
 3610 ‘This table had four sturdy legs.’

3611 (73) *Disease*

3612 a. ême sereshe=man he-ye / he-n.  
 1PL.pro headache=1PL.CL exist-COP.PRS / exist-COP.PRS.PL  
 3613 ‘We have headaches.’<sup>28</sup>

3614 b. min (hemishe) sereshe=m he-bu-(n).  
 1SG.pro always headache=1SG.CL exist-COP.PST-PL  
 3615 ‘I (always) had headaches.’

3616 (74) *Body-part*

3617 a. ême chaw-i shin=man he-ye / \*he-n.  
 1PL.pro eye-EZ blue=1PL.CL exist-COP.PRS / exist-COP.PRS.PL  
 3618 ‘We have blue eyes.’

3619 b. ême chaw-i shin=man he-bu-(\*n).  
 1PL.pro eye-EZ blue=1PL.CL exist-COP.PST-PL  
 3620 ‘We had blue eyes.’

3621 (75) *Attribute*

3622 a. ême sebr-i zor=man he-ye.  
 1PL.pro patience-EZ much=1PL.CL exist-COP.PRS  
 3623 ‘We have much patience.’

3624 b. ême sebr-i zor=man he-bu.  
 1PL.pro patience-EZ much=1PL.CL exist-COP.PST  
 3625 ‘We had much patience.’

3626 Looking at the syntax of this construction, we observe that while the oblique argument  
 3627 shows the behavior that is typical of Ergative DPs, the non-subject argument behaves dif-  
 3628 ferently from that of the *want*-type predicates. Viewed together, these differences point to  
 3629 the conclusion that this possessum argument bears Nominative case.

<sup>28</sup>The plural form is realized as *he-n(e)*, and not *he-ye-n*.

3630 First, unlike the DO of *want*, no complementarity exists between an overt argument and  
 3631 its indexer:<sup>29</sup>

- 3632 (76) a. to ewan=it he-ye / he-n.  
 you them=2SG.CL exist-COP.PRS / exist-PL  
 3633 ‘You have them.’  
 3634 b. ême kiteb-ek-an=yan=man he-bu-(n)  
 we book-the-PL=3PL.CL=1PL.CL exist-COP.PST-PL  
 3635 ‘We had their books.’

3636 Moreover, while a double-oblique pattern is observed for *want* in Garmiani, where both  
 3637 arguments are realized as MP clitics, this is not possible with clausal possession. Instead,  
 3638 the grammatical version is identical to its SSK counterpart.<sup>30</sup>

- 3639 (77) a. \*ême he-bû=yan=man  
 1PL.pro exist-COP.PST=3PL.CL=1PL.CL  
 3640 ‘We had them.’ (GK)  
 3641 b. \*ême he=yan=man-bû  
 1PL.pro exist=3PL.CL=1PL.CL-COP.PST  
 3642 ‘We had them.’ (GK)

<sup>29</sup>The same property also holds for Northern Kurdish dialects, as well as potential agreement with the non-oblique argument, as seen in (i). (IZP = Plural Izafe particle).

- (i) te du sêv wêt he-in.  
 2SG.OBL two apple.PL IZP existent-COP.PL  
 ‘You have two apples.’ (Northern Kurdish; Haig 2008:272, (292))

<sup>30</sup>As reported in Haig (2008:260), certain expressions of sensory perception, which involve a body-part term, also fall into the category of NCSs in Kurdish. The most common of them is *çav kaftin* ‘catch sight of’ (lit: eyes fall). Looking at varieties that have overt case, this construction further confirms the subjecthood property of the oblique-case marked argument as it can bind the subject-oriented reflexive *xê* ‘self’, as shown in (i). Moreover, there is no complementary distribution between the overt internal argument and its indexer. In that regard, it behaves like the ‘have’-predicate (perhaps unsurprisingly as it involves body-part relation).

- (i) waxt-ê min çav dôtâm-â xê kaft-in.  
 time-OBL 1SG.OBL eye.PL cousin-EZ self fall.PST-PL  
 ‘When I caught sight of my cousin.’ (lit. When to-me eyes fell on my cousin)  
 (MacKenzie 1962:286, as cited in Haig 2008:260, (262))

This behavior is not surprising in that in Northern Kurdish dialects, the direct-case bearing argument governs agreement on the verb, regardless of its grammatical function (e.g., Haig 1998; Gündoğdu 2011; Atlamaz 2012; Akkuş 2020).

- (ii) ta az na-vê-m.  
 2SG.OBL 1SG.DIR NEG-be.necessary.PRS-1SG  
 ‘You don’t want/need me.’ (MacKenzie 1961:192, as cited in Haig 2008:261, (268))

3643 c. ême he=man bû-*n*  
 1 PL.pro exist=1 PL.CL COP.PST-3 PL  
 3644 ‘We had them.’ (GK/SSK)

3645 In addition, unlike what is seen with *want* above, the clausal possessive cannot be pas-  
 3646 sivezed, irrespective of the type of possession involved. Consider (78):

- 3647 (78) a. qalam-an=man ha-bû.  
 pen-PL=1 PL.CL exist-COP.PST  
 3648 ‘We had some pens.’  
 3649 b. \*qalam-an ha-(di)ra-bû-(n).  
 pen-PL exist-PASS.PST-COP.PST-PL  
 3650 Intended: ‘Some pens were had (by us).’

3651 We interpret these behaviors to mean that the non-subject in clausal possession is syn-  
 3652 tactically identical to the sole argument of the existential construction (cf. (69)), and as  
 3653 such bears Nominative case.<sup>31</sup> One difference between these constructions is that while  
 3654 MS Agreement with the Nominative argument is obligatory in existentials, it is optional in  
 3655 clausal possessions. While we do not have an account for this difference, we will see the  
 3656 same optionality in passives of ditransitives as well in §5.3.

3657 The possessor is generated inside of the possessum, as shown in (79) (cf. Kayne 1993;  
 3658 Szabolcsi 1981; Deal 2013):<sup>32</sup>

3659 (79) Possessive structure

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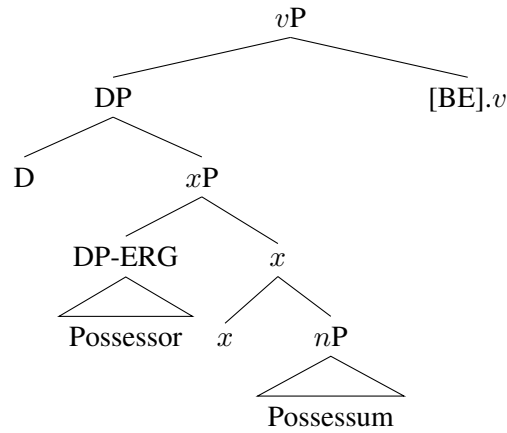
<sup>31</sup>At least on the surface, the possessor *c*-commands the possessee given the availability of bound pronoun interpretations, (i). In this regard, *want*-predicates also show the same behavior, (ii), thus this is not telling for our purposes.

- (i) hemu<sub>i</sub> qutabiye-k kiteb-ek-an-i xo=y<sub>i</sub> he-bu.  
 every student-a book-the-PL-EZ self=3 SG.CL exist-COP.PST  
 ‘Every<sub>i</sub> student had his<sub>i</sub> books.’  
 (ii) hemu<sub>i</sub> qutabiye-k kiteb-ek-an-i xo=y<sub>i</sub> wîst.  
 every student-a book-the-PL-EZ self=3 SG.CL want.PST  
 ‘Every<sub>i</sub> student wanted his<sub>i</sub> books.’

<sup>32</sup>It is possible that the sister of *v*[BE] here is internally complex, with a silent element as the sister of the DP expressing its spatial-temporal location. Concerning the details of where the possessor is generated, we will explore an alternative in 5.4 below.



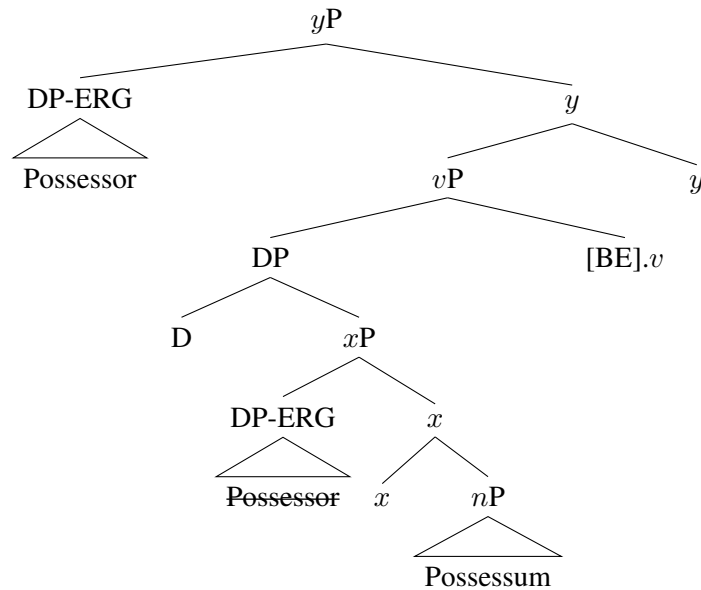
3660



3661 The possessor argument then moves out of this structure, as shown in (80); we do not have  
 3662 any specific claim as to where the possessor moves in this step, and represent its landing  
 3663 site with *y*:

3664 (80) Possessive after possessor moves

3665



3666 What is important for our purposes is that the possessor must leave the possessed DP (cf.  
 3667 Deal 2013 for this obligatory step in Nez Perce) and become the subject. As we will discuss  
 3668 in 5.4 below, there are reasons for thinking that having it move first to an intermediate site  
 3669 like *y* will help to explain some of clausal possession's similarities with IO-passivization.  
 3670 After this movement, MS Agreement from  $\mathcal{O}$  targets the Ergative possessor, and MS Agree-  
 3671 ment from T targets the Nominative possessum. We will have more to say about the case  
 3672 properties of the possessor in 5.4.

3673       Regarding the possessum, this analysis accounts for why it triggers agreement, but not  
3674 for the optionality of this. Though (as noted earlier) we lack an explanation for the option-  
3675 ality, it is worth noting that crosslinguistically, optionality of this type is more characteristic  
3676 of object-verb agreement relative to subject-verb agreement, in that if two arguments show  
3677 agreement, the higher one exhibits obligatory agreement while the lower one may option-  
3678 ally do so in some languages.<sup>33</sup> For some additional comparative observations on this effect  
3679 within Iranian, see 5.6.2.

### 3680 5.2.3 Interim summary

3681 For the non-canonical subjects of the *want*-type predicates, a straightforward way of view-  
3682 ing their case behavior is to hold that these DPs are assigned Ergative inherently, rather than  
3683 structurally. The same kind of analysis could be extended to clausal possession as well, al-  
3684 though we will return to this point in 5.4. In any case, having case assigned inherently  
3685 provides an explanation for why Ergative case assignment is not sensitive to the alignment  
3686 split:

- 3687 (81) INHERENT ERGATIVE: Case is assigned to NCS arguments in a way that is inde-  
3688 pendent of the aspect system; that is
- 3689 a. Subjects of *want*-predicates are assigned [+subj,+obl] **inherently** by Appl.
  - 3690 b. Possessor arguments in clausal possession are assigned [+subj,+obl] **inherently**  
3691 by *x*.

3692       As we saw above, for the *want* type of clause the DO bears Objective Case in SSK and  
3693 Accusative case in GK. Beyond the inherent Ergative property, then, these clauses are thus  
3694 basically typical transitives.

3695       The syntax of possession involves what appears to be an Ergative subject, and a Nom-  
3696 inative object.<sup>34</sup> We posited a structure in which the Possessor originates higher than the

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<sup>33</sup>See e.g., Carstens 2001 or Gambarage 2021 for Nata and some other Bantu languages, Muxí 1996 for optional participial agreement with direct object clitics in Catalan, or Bickel et al. 2007 for the Kiranti language Puma (see also the next section for the same property in IO-passives of ditransitives in Kurdish). Baker 1988 reports the same property for Chichewa and many other languages.

<sup>34</sup>It is worth pointing however that the structural properties of such verbs may exhibit variation among dialects, calling for potentially different analyses. Recall that we argued that in SSK and GK, the non-subject argument for *want*-type behaves like a moved clitic that is realized as MP agreement. In this regard, the non-subject in clausal possession behaves differently from other NCS non-subjects, and presumably bears Nominative case. However, *want*-type predicates in the Badīnānī variety seem to pattern more like clausal possession in Sorani (Badīnānī is part of the Northern Kurdish dialect group and has overt case marking at least on the pronouns in terms of direct-oblique). This can be seen in the fact that the non-subject argument is not in complementary distribution with the MP agreement-indexer on the verb. Consider (i) for the verb *vyān* ‘be necessary, be desirable’. Note that it is the needed entity that controls the agreement on the verb. (Glosses have been slightly modified from the sources.)

(i) ta       az       na-vē-m.  
2sg.OBL 1sg.DIR NEG-be.necessary.PRS-1SG  
‘You don’t want/need me.’ (MacKenzie 1961: 192, as cited in Haig (2008):261, (268))

3697 Possessum, and moves out of the structure prior to the application of indexation opera-  
 3698 tions.<sup>35</sup> As we will see in the next section, this case-behavior of clausal possessives has a  
 3699 striking parallel in the passivization of ditransitives. We will therefore look at these in detail  
 3700 next in 5.3 before making some proposals concerning both possession and passivization in  
 3701 5.4.

### 3702 5.3 Ergative case in the passivization of ditransitives

3703 As we saw above in Chapters 3 and 4 (cf. §4.1), the passivization of transitives is unre-  
 3704 markable in terms of alignment behavior: the internal argument is raised to become the  
 3705 grammatical subject as the sole remaining argument, and triggers MP Agreement on the  
 3706 verb, as shown in (82). The Agent can be optionally realized as a ‘by’-phrase.

- 3707 (82) a. (ême) ewan=**man** kuşt.  
 1 PL.pro 3 PL.pro=1 PL.CL kill.PST  
 3708 ‘We killed them.’  
 3709 b. (ewan) kuj-ra-n (le layen ême-we).  
 3 PL.pro kill.PRS-PASS.PST-3 PL (from side 1 PL.pro-ITER)  
 3710 ‘They were killed (by us).’

3711 This section examines the passivization patterns in ditransitives, in a way that highlights  
 3712 a contrast between DO-passivization versus IO-passivization. While the former behaves ex-  
 3713 actly as expected, with a Nominative patient/theme that functions as a typical subject (thus  
 3714 similar to transitives), the latter presents a number of intriguing properties. In particular,  
 3715 the ‘passivized-on’ goal behaves in the way typical of Ergative subjects, and appears with a  
 3716 co-indexed MP clitic; at the same time, the DO is indexed by optional MP Agreement. In-  
 3717 terestingly, these two properties are also found with clausal possession, as discussed in 5.2.

---

The fact that the oblique-case marked element binds the subject-oriented reflexive *xô* ‘self’ confirms their status as grammatical subjects, (ii).

- (ii)  $min_i$  t-vē-t hesp-ē  $xô_i$ .  
 1sg.OBL IND-be.necessary.PRS-3SG horse-EZ self  
 ‘I want/need my own horse.’ (and noone else’s) (Haig (2008):261, (269))

Furthermore, the oblique element can also control co-referential deletion, another subjecthood property.

- (iii)  $min_i$  d-vē-t [PRO<sub>i</sub> bi-ç-im mal-ē].  
 1sg.OBL IND-be.necessary.PRS-3SG IRR-go.PRS-1SG house-OBL  
 ‘I want/need to go home.’ (Şirin 1996: 18, as cited in Haig (2008):261, (270))

<sup>35</sup>The heterogeneous nature of non-canonical subject constructions is not surprising from a crosslinguistic perspective (see e.g., Belletti and Rizzi 1988; Landau 2010 for experiencers). For example, in Tsez, the experiencer construction (also known as affective construction) involves the experiencer in the lative form, and the stimulus is in the absolutive case. Polinsky (2021) argues that this construction in fact is not uniform, and consists of two subclasses, which she calls *know*-verbs and *like*-verbs.

3718 After analyzing IO-passives in this section, we thus turn to the properties that they share  
3719 with clausal possessives in 5.4.

3720 Before we proceed, a note is in order concerning terminology. We will continue to use  
3721 the labels *DO*-passive and *IO*-passive for the two clause-types that we will analyze. One of  
3722 the points that will be developed as we proceed is that the DO and IO in these passive types  
3723 becomes the subject of the clause. The labels DO/IO should thus be understood as ‘what  
3724 would be DO/IO in an active clause.’

### 3725 5.3.1 Basic facts

3726 The examples in (83) are active ditransitive clauses in the imperfective and perfective, re-  
3727 spectively.

- 3728 (83) a. Azad dyarî-ek-an pê=man de-d-at.  
Azad gift-the-PL to=1PL.CL IND-give.PRS-3SG  
3729 ‘Azad will give the gifts to us.’  
3730 b. Azad dyarî-ek-an=î pê=man da.  
Azad gift-the-PL=3SG.CL to=1PL.CL give.PST  
3731 ‘Azad gave the gifts to us.’

3732 As far as we can tell, Sorani ditransitives are formed with the DO higher than the IO; or  
3733 at least, there is no evidence that we are aware of for an IO>DO underlying order.

3734 The surface syntax of ditransitives is clearly compatible with DO being higher than  
3735 IO. This can be seen in the contrast between (84) and (85), which shows that in the active  
3736 ditransitive, an anaphoric object cannot be bound by an IO. On the other hand, a pronominal  
3737 DO can bind the anaphoric IO.

- 3738 (84) \*ewan xoman=yan pe=man nîšan da.  
3PL.pro ourselves=3PL.CL to=1PL.CL show give.PST  
3739 ‘They showed ourselves to us.’  
3740 (85) ewan ême=yan be xoman nîšan da.  
3PL.pro us=3PL.CL to ourselves show give.PST  
3741 ‘They showed us to ourselves (in the mirror).’

3742 Another argument comes from bound variable interpretations.

- 3743 (86) a. min hemu qutabiy-êk=im be dayk=î nîšan da.  
1SG.pro every student-a=1SG.CL to mother=3SG.CL show give.PST  
3744 ‘I showed every student<sub>i</sub> to his<sub>i/k</sub> mother.’  
3745 b. min dayk=î=m be hemu qutabiy-êk nîšan da.  
1SG.pro mother=3SG.CL=1SG.CL to every student-a show give.PST  
3746 ‘I showed his<sub>k/\*i</sub> mother to every student<sub>i</sub>.’

3747 c. hemu qutabiy-êk dayk=î=y pê-nîšan di-ra.  
 every student-a mother=3SG.CL=3SG.CL to-show give.PRS-PASS.PST  
 3748 ‘Every student<sub>i</sub> was shown his<sub>i/k</sub> mother (in the garden).’<sup>36</sup>

3749 A further diagnostic is scope. SSK is a surface-scope language, as indicated in (86a)  
 3750 and (86b) (see Baker and Atlamaz (2014:36) for the illustration of the same property in  
 3751 Northern Kurdish). Note that a lower existential can outscope a higher universal quantifier,  
 3752 (86c); this is a general property of existential quantifiers, thus it is not incompatible with  
 3753 the surface-scope property.

- 3754 (86) a. qutabîy-ek hemu name-yêk=î bînî.  
 student-a every letter-a=3SG.CL see.PST  
 3755 ‘A student saw every letter.’  $\exists > \forall; * \forall > \exists$   
 3756 b. ew name-yêk=î bo hemu qutabîy-ek nard.  
 he letter-a=3SG.CL to every student-a send.PST  
 3757 ‘He sent a letter to every student.’  $\exists > \forall; * \forall > \exists$   
 3758 c. ew hemu name-yêk=î bo qutabîy-ek nard.  
 he every letter-a=3SG.CL to student-a send.PST  
 3759 ‘He sent every letter to a student.’  $\forall > \exists; \exists > \forall$

3760 Moving on to passivization, DO passives corresponding to (83) are illustrated in (87).  
 3761 The derived subject behaves as the sole argument of an intransitive clause, as such shows  
 3762 MP agreement with the verb:

- 3763 (87) a. dyarî-ek-an pê=man de-d-rê-n.  
 gift-the-PL to=1PL.CL IND-give.PRS-PASS.PRS-PL  
 3764 ‘The gifts are given to us.’  
 3765 b. dyarî-ek-an pê=man di-ra-n.  
 gift-the-PL to=1PL.CL give.PRS-PASS.PST-PL  
 3766 ‘The gifts were given to us.’

3767 These passives are unremarkable, just as the passives of transitives are. However, this  
 3768 is not the only passive option available. It is also possible to have what appears to be IO  
 3769 passivization, in which the IO argument raises to become the grammatical subject. When

<sup>36</sup> Anaphor binding of the type seen in (i) shows that the raised IO binds the DO reflexive. Karimi (2013) interprets this to mean that the IO is merged higher than the DO, and thus c-commands it. However, this is not necessarily the case: it only shows that the IO is on the surface in a position higher than the DO (without being informative as to its original position).

(i) ême xoman=man pe=nîšan di-ra  
 1PL.pro ourselves=1PL.CL to=show give.PRS-PASS.PST  
 ‘We were shown ourselves.’ (Karimi 2013:25b)

3770 this happens, the IO is indexed by an MP clitic, while the DO is indexed with MP agreement  
3771 on the verb; this MP agreement is optional.

3772 Both of these indexations behave like MS Agreement in cooccurring with an overt arg-  
3773 ument.<sup>37</sup> The IO counterparts of (83) are given in (88).

3774 (88) a. ême dyarî-ek-an=man pê-de-d-rê-(n).  
1 PL.pro gift-the-PL=1 PL.CL to-IND-give.PRS-PASS.PRS-PL

3775 'We will be given the gifts.'

3776 b. ême dyarî-ek-an=man pê-di-ra-(n).  
1 PL.pro gift-the-PL=1 SG.CL to-give.PRS-PASS.PST-PL

3777 'We were given the gifts.'

3778 In (89) we provide more examples that involve various person-number combinations.

3779 (89) a. to ewan=et pê-di-ra-(n).  
2SG.pro them=2SG.CL to-give.PRS-PASS.PST-PL

3780 'You.sg were given them (the letters).'

3781 b. to name-k-an=it pê-de-d-rê-(n).  
2SG.pro letter-the-PL=2SG.CL to-IND-give.PRS-PASS.PRS-PL

3782 'You.sg are given the letters.'

3783 c. to chend xanu-yek=it pê-de-d-rê-(n).  
2SG.pro several house-a=2SG.CL to-IND-give.PRS-PASS.PRS-PL

3784 'You.sg are given several houses.'

3785 d. Mary dyarî-eke=y pê-de-d-rê-(t).  
Mary gift-the=3SG.CL to-IND-give.PRS-PASS.PRS-3SG

3786 'Mary will be given the gift.' (adapted from Kareem 2016:133)

3787 e. êwe aw pyaw-ane=tan wek xizmetkar pe-a-di-re-(n).  
2PL.pro that man-PL=2PL.CL as servant to-IND-give-PASS.PRS-PL

3788 'You will be given those men as servants.' (adapted from Karimi 2013:25b)

3789 f. to ême=t pê-di-ra-(yn).  
2SG.pro us=2SG.CL to-give.PRS-PASS.PST-1PL

3790 'You.sg were given us (as partners in a game).'<sup>38</sup>

3791 In short form, IO passives have the following properties. First, the surface subject pas-  
3792 sive shows the indexation pattern typical of Ergatives, in a way that is not conditioned by

<sup>37</sup>Some variation has been reported concerning MP agreement with the patient argument. Kareem (2016:134) suggests that co-varying agreement is always present and marks examples without the appropriate object agreement as ungrammatical (see *ibid.* fn.29, p.135), while Karimi (2013:75) suggests that only default agreement is available. However, our investigation reveals that both options are indeed possible (including for the native speaker co-author of this study), with some variation among speakers in terms of preference.

<sup>38</sup>This form is more readily accepted by our GK speakers, while for some of the SSK speakers find it somewhat degraded.

3793 aspect. Second, the DO is indexed (optionally) with MP Agreement, in a way that is typical  
 3794 of Nominative case. In addition, while typical DOs and their corresponding indexers are in  
 3795 complementary distribution, this is not the case in IO passives, where both arguments are  
 3796 apparently involved in MS Agreement.

### 3797 **5.3.2 Structure of the IO passive**

3798 When we apply various diagnostics that have been used earlier in this book, it can be shown  
 3799 that IO passives have (i) the IO as a typical subject; while (ii) the DO remains in situ. We  
 3800 approach each of these points in turn, focusing on which case each argument receives.<sup>39</sup>

<sup>39</sup>Questions similar to the ones that we ask here have been examined in the literature on Insular Scandinavian. In Faroese, for example: the active version of the verb *giva* ‘give’ is presented in (i-a). In passive (i-b), the direct object moves to the subject position, where it bears nominative case and shows subject-verb agreement. On the other hand, in passives in which the IO moves to subject position rather than the DO, dative case is preserved on the derived subject. Interestingly, accusative case on the DO is also lost, (i-c). The same pattern is illustrated for the verb *sýna* ‘show’ in (ii), which also shows that it is the dative subject that (may) control agreement.

- (i) Faroese ‘give’ (Thráinsson et al. 2004:270)
  - a. Tey góvu gentuni telduna.  
they gave the.girl.DAT the.computer.ACC
  - b. Teldan bleiv givin gentuni.  
the.computer.NOM was given the.girl.DAT  
‘The computer was given to the girl.’
  - c. ?Gentuni bleiv givin ein telda.  
the.girl.DAT was given a computer.NOM  
‘The girl was given a computer.’
  
- (ii) Faroese ‘show’ (Thráinsson et al. 2004:270)
  - a. Tey sýndu gestunum tilfarið.  
they showed the.guests.DAT the.material.ACC  
‘They showed the guests the material.’
  - b. Tiltfarið bleiv sýnt gestunum.  
the.material.NOM was shown the.guests.DAT  
‘The material was shown to the guests.’
  - c. Gestunum bleiv sýnt {?nógv tilfar / ??tilfarið } um Heinesen.  
the.guests.DAT were shown much material / the.material on Heinesen  
‘The guests were shown {a lot of material / the material} about Heinesen’

*Tilfar* and *tilfarið*,- in this example are syncretic for nominative and accusative case. Moreover, the ? versus ?? reflect the effect of definiteness effect along with the dispreference of IO passivization relative to DO passivization. Einar F. Sigurðsson (p.c.) informs us that the word order is a strong indication for the subjecthood although the definiteness effect still needs to be considered.

It is also worth noting that accusative case is preserved with certain verbs, e.g., *ynskja* ‘wish’, when the IO is raised to the subject position. Whether this case retention is related to the fact that ‘wish’ disallows DO/the passivization (which is the preferred strategy even with verbs exhibiting symmetric passivization) is an open question.

See Jónsson (2009) and F. Sigurðsson et al. (2021) for more illustrations of the case/agreement patterns in Faroese, and Insular Scandinavian more broadly.

3801 A first question is whether the IO passive subject behaves as a typical subject, and not  
 3802 like e.g., an argument that has been topicalized (as assumed in Karimi 2010). This option is  
 3803 a plausible alternative since it has been argued in studies of the history of Iranian languages  
 3804 that certain grammatical subjects are the result of a reanalysis of hanging topics (see Jügel  
 3805 and Samvelian (2020); Bynon (1979); Jügel (2009); also see §5.6.2 for some discussion).  
 3806 In the case of Sorani, however, several arguments lead to the conclusion that the IO behaves  
 3807 like the subjects of other types of clauses.

3808 A first piece of evidence is the possibility of quantified IOs. Quantifiers cannot be topi-  
 3809 calized, as shown in (90):<sup>40</sup>

3810 (90) \*kes, min ne=**m** bînî  
 anybody 1SG.pro NEG=1SG.CL see.PST  
 3811 ‘Anybody, I didn’t see.’

3812 However, IO passives are possible with quantifiers, as seen in (91), suggesting they are  
 3813 subjects, not topics.<sup>41</sup>

3814 (91) a. kes pare-ke=**y** pê-ne-di-ra  
 noone money-the=3SG.CL to-NEG-give.PRS-PASS.PST  
 3815 ‘Noone was given the money.’  
 3816 b. çend qutabîy-êk pare-ke=**yan** pê-di-ra  
 several student-a money-the=3PL.CL to-give.PRS-PASS.PST  
 3817 ‘Several students were given the money.’

3818 Depictive secondary predicates point to the same conclusion. As discussed earlier, de-  
 3819 pictives in Sorani cannot modify indirect objects (recall (64c)), whether they are topical-  
 3820 ized or not. However, the raised IO can license a depictive, (92), which is expected if it has  
 3821 moved to the subject position.

3822 (92) ewan gošt-eke=**yan** be serxošî bo nerd-ira  
 3PL.pro meat-the=3PL.CL in drunk to send.PRS-PASS.PST  
 3823 ‘They<sub>1</sub> were sent the meat drunk<sub>1</sub>.’

3824 The creation of new binding configurations rather than triggering of Weak Crossover  
 3825 (WCO) effects is another hallmark of A-movement, which would not be expected under a  
 3826 topicalization account. The binding facts, repeated here as (93), indicate that the IO pas-  
 3827 sivation establishes a new binding configuration, just like the DO passivization, shown in  
 3828 (94).

<sup>40</sup>cf. footnote 3, ex. (i) for the topicalization of a definite DP (optionally associated with a resumptive pronoun within the clause).

<sup>41</sup>Karimi (2010:705) notes that “such passive constructions [IO passivization] in Kurdish is that they force a strongly topicalized reading of the indirect object”. However, the above examples show that this cannot be the case; moreover, our consultants (as well as the native speaker co-author) report no such intuition, echoing Kareem (2016) that IO passivization is no more topical than DO passivization. See Kareem (2016:ch. 3.6.) also for more arguments against the approach of Karimi (2010).



- 3829 (93) a. min dayk=î=m be hemu qutabiy-êk nišan da.  
 1SG.pro mother=3SG.CL=1SG.CL to every student-a show give.PST  
 3830 ‘I showed his<sub>k/\*i</sub> mother to every student<sub>i</sub>.’  
 3831 b. hemu qutabiy-êk dayk=î=y pê-nišan di-ra.  
 every student-a mother=3SG.CL=3SG.CL to-show give.PRS-PASS.PST  
 3832 ‘Every student<sub>i</sub> was shown his<sub>i/k</sub> mother (in the garden).’
- 3833 (94) a. dayk=î hemu qutabiy-êk=î bînî.  
 mother=3SG.CL every student-a=3SG.CL see.PST  
 3834 ‘His<sub>k/\*i</sub> mother saw every student<sub>i</sub>.’  
 3835 b. hemu qutabiy-êk bîn-ra le layen dayk=î=yewe.  
 every student-a see.PRS-PASS.PST from side mother=3SG.CL-ITER  
 3836 ‘Every student<sub>i</sub> was seen by his<sub>i/k</sub> mother.’

3837 Yet another argument comes from conjunction reduction, which allows coreferential  
 3838 deletion across coordinate clauses (see Chapter 3). The passivized IO functions as a gram-  
 3839 matical subject according to this diagnostic too.

- 3840 (95) a. kes pare-ke=y pê-ne-di-ra û roysht.  
 noone money-the=3SG.CL to-NEG-give.PRS-PASS.PST and leave.PST  
 3841 ‘Noone was given the money and left.’  
 3842 b. ême dyarî-ek-an=man pê-di-ra û roysht-în.  
 1PL.pro gift-the-PL=1SG.CL to-give.PRS-PASS.PST and leave.PST-1PL  
 3843 ‘We were given the gifts and (then) left.’

3844 Finally, it is worth noting that the IO in IO passives does not serve as a clitic host. This  
 3845 is again what is expected from a typical subject in the language.

3846 Moving on to the status of the DO, a first observation is that (in contrast to the IO) this  
 3847 argument continues to be a clitic host– see e.g. (92) and the rest of the examples above.  
 3848 This shows that it behaves like DOs in other clauses (minimally, that it has not been moved  
 3849 higher than typical DOs).

3850 As we noted above, DOs in IO passives do not look like they possess *Accusative* (or  
 3851 *Objective*) case, but are instead Nominative case. First, recall that in active transitives, DOs  
 3852 (and other internal arguments) are in complementary distribution with their indexers in  
 3853 both the perfective and imperfective aspects. On the other hand, when the IO moves to the  
 3854 subject position, the DO may cooccur with an indexer, which in our analysis is the result of  
 3855 it showing agreement with T, which targets Nominative case:

- 3856 (96) a. to ewan=et pê-di-ra-(n)  
 2SG.pro them=2SG.CL to-give.PRS-PASS.PST-PL  
 3857 ‘You.sg were given them (the letters).’

3858           b. to       *name-k-an=it*       *pê-de-d-rê-(n)*  
               2SG.pro letter-the-PL=2SG.CL to-IND-give.PRS-PASS.PRS-PL  
 3859           ‘You.sg are given the letters.’

3860 This behavior is typical of Nominative arguments in Sorani, but is not expected with Ac-  
 3861 cusatives.

3862       Garmiani is informative in this respect as well. Recall that in GK, the DO indexer  
 3863 is realized as an MP clitic in both aspects, as opposed to SSK, and that this holds even  
 3864 for the non-canonical subject constructions of the *want*-type, where we observe the so-  
 3865 called double-oblique pattern. With IO passivization, though, GK patterns with SSK, and  
 3866 the double-oblique realization is ungrammatical. This is shown in (97):

- 3867 (97) a. \*to       *pê=yan=it*       *di-ra*  
           2SG.pro to=3PL.CL=2SG.CL give.PRS-PASS.PST  
 3868       ‘You.sg were given them (the letters).’ (cf. (89a))  
 3869       b. \*to       *bo Narmin=yan=it*       *pê-di-ra*  
           2SG.pro for Narmin=3PL.CL=2SG.CL to-give.PRS-PASS.PST  
 3870       ‘You.sg were given them (the letters) for Narmin.’  
 3871       c. \*to       *pê=man=it*       *di-ra*  
           2SG.pro to=1PL.CL=2SG.CL give.PRS-PASS.PST  
 3872       ‘You.sg were given us.’

3873       A further comparative observation pointing to the idea that DOs are Nominative in IO  
 3874 passives is seen in the related Hawrami variety studied in [Holmberg and Odden \(2004\)](#).  
 3875 This language– unlike Sorani and Garmiani– displays overt case marking on noun phrases.  
 3876 DO passivization is illustrated in (98), where the derived subject shows MP agreement on  
 3877 the verb, as shown in (98b) and (98c).

- 3878 (98) Hawrami ([Holmberg and Odden 2004:51](#))  
 3879       a. (ađ)   *zar-akæ-i*       *mæ-đ-o*       *ba žiway*  
           3SG.pro present-the-ACC INFL-give-3SG to Žiway  
 3880       ‘He will give the present to Zhiwa.’  
 3881       b. *zar-akæ*   *mæ-đir-y-o*       *ba žiway*  
           present-the INFL-give-PASS-3SG to Žiway  
 3882       ‘The present will be given to Zhiwa.’  
 3883       c. *zar-ak-an*   *mæ-đir-y-â*       *ba žiway*  
           present-the-PL INFL-give-PASS-3PL to Žiway  
 3884       ‘The presents will be given to Zhiwa.’

3885       The IO passivization patterns are illustrated in (99). Similar to Sorani Kurdish, the  
 3886 raised IO is co-indexed with an MP clitic on the clitic host, while the DO is indexed by  
 3887 MP agreement realized on the verb:

- 3888 (99) Hawrami (Holmberg and Odden 2004:52)
- 3889 a. *Žiwa zar=iš* pænæ mæ-ðir-y-o.  
 Žiwa present=3SG.CL to INFL-give-PASS-3SG  
 3890 ‘Zhiwa will be given a present.’
- 3891 b. *Žiwa gul-e=š* pænæ mæ-ðir-y-â.  
 Žiwa flower-PL=3SG.CL to INFL-give-PASS-3PL  
 3892 ‘Zhiwa will be given flowers.’
- 3893 c. *Zawro-k-ân zar=šân* pænæ mæ-ðir-y-o.  
 child-the-PL present=3PL.CL to INFL-give-PASS-3SG  
 3894 ‘The children will be given a present.’

3895 Hawrami furthermore provides direct evidence concerning the the case on the DO of a type  
 3896 that is not available in Sorani Kurdish due to an absence of case distinctions on nominals.  
 3897 As noted by Holmberg and Odden (2004) and shown in (98a) and (99a), the DO loses its  
 3898 accusative case marking when IO passivization takes place.

3899 Finally, recall from fn. 7 example (ii), repeated here as (100), that the DO possessor can  
 3900 be displaced in a configuration that involves prepositional arguments, including an applied  
 3901 constituent (the PP is in the preferred postverbal position).

- 3902 (100) a. (min) *xwardin-eke=t=im* bird bo ewan.  
 1SG.pro food-the=2SG.CL=1SG.CL take.PST for them  
 3903 ‘I took away your food for them.’
- 3904 b. (min) *xwardin-eke=m* bird-îr bo ewan.  
 1SG.pro food-the=1SG.CL take.PST-2SG for them  
 3905 ‘I took away your food for them.’

3906 When the applied constituent is passivized to become the grammatical subject, the DO  
 3907 possessor cannot be MP-Agr displaced onto the verb.

- 3908 (101) a. *ewan xwardin-eke=t=yan* bo bi-ra.  
 1SG.pro food-the=2SG.CL=1SG.CL for take.PRS-PASS.PST  
 3909 ‘They were taken your food for.’
- 3910 b. \**ewan xwardin-eke=yan* bo bi-ra-t.  
 1SG.pro food-the=1SG.CL for take.PRS-PASS.PST-2SG  
 3911 ‘They were taken your food for.’

3912 The ungrammaticality of (101b) is expected given the arguments of this section in con-  
 3913 junction with the analysis of external possession in §4.3. There, we argued that realization  
 3914 of possessors as MP agreement happens only in clauses in which the possessed argument re-  
 3915 ceived Objective case. The fact that possessors cannot be realized in this way in IO passives  
 3916 follows if DOs in these are not assigned Objective, but instead receive Nominative.

3917 **5.3.3 Interim Summary**

3918 Taken together, these arguments lead to the conclusion that IO passives have (i) an IO  
3919 subject that agrees in the way that is typical of Ergative arguments, and (ii) a DO that  
3920 agrees (optionally) in a way that is typical of arguments with Nominative case:

3921 (G5) In ditransitives, IOs can be passivized on and become subjects; the DO remains in  
3922 situ; case-wise

3923 (a) The IO is Ergative, and obligatorily MS agreed with; while

3924 (b) The DO is Nominative, and optionally MS agreed with.

3925 Both of these effects are of interest. Taken together, they amount to a clause in which  
3926 two separate DPs show MS Agreement. MS Agreement in Sorani is typically found with  
3927 with a unique Subject argument; as such, IO passives are a kind of ‘double Subject’ con-  
3928 struction. Subjecthood is not a monolithic notion, but instead refers to several properties  
3929 that often pattern together. What this situation shows is that sometimes two arguments bear  
3930 some of the relevant properties– in this case, being agreed with, which is encoded in our  
3931 case system in the feature [+subj].

3932 **5.4 Case assignment in IO passives and possessives: Some remarks**

3933 Above we examined two instances of what appears to be Ergative/Nominative clauses:  
3934 clausal possession and IO passivization. In this section we offer some remarks as to why  
3935 these particular clauses behave in this way, with an eye towards the syntactic factors that  
3936 they share. The discussion concentrates on (i) identifying shared properties of the two con-  
3937 structions, and (ii) providing a list of factors that appear to be relevant to a formal theory of  
3938 case assignment.

3939 To set the theoretical context, and beginning with IO passives, we note that the case of  
3940 the DO argument does not raise new difficulties. The fact that it is Nominative is derivative  
3941 of whatever makes DOs Nominative in passive clauses more generally (that is to say, in  
3942 passives of transitives, or DO passives of ditransitives). The case of the IO argument, on the  
3943 other hand, calls for further comment. The objects of prepositions do not behave as if they  
3944 are Ergative elsewhere in the language; rather, it appears that there is something about case  
3945 assignment in IO passives that produces Ergative on an argument that is otherwise assigned  
3946 Accusative. In other words, it looks as if these IOs might be an instance of a **derived subject**  
3947 with Ergative case.

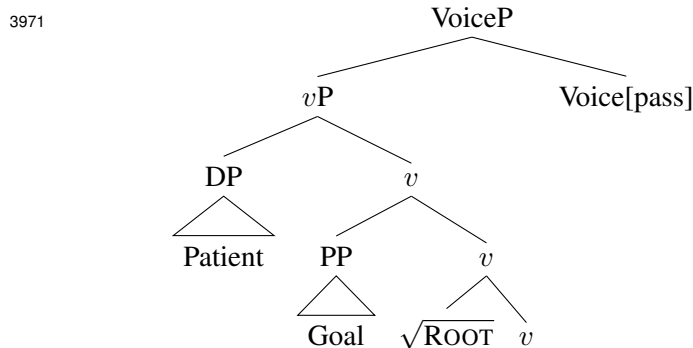
3948 The status (or existence) of derived Ergative arguments plays an important role in com-  
3949 paring theories of case assignment. This point emerges clearly in [Baker and Bobaljik’s](#)  
3950 [\(2017\)](#) review (see also [Deal 2017a](#), with reference to the differences between two ap-  
3951 proaches to Ergative case assignment: inherent case theories, and dependent case theories.  
3952 The best-case scenario for the former is that there should never be derived subjects that are  
3953 assigned Ergative: the only source for this case is a specific case-assigner (i.e. a head), so

3954 that there is no way to become Ergative ‘through the back door.’ Dependent case approaches  
 3955 make a contrasting prediction. They allow derived subjects to have Ergative when two DPs  
 3956 are in certain kinds of structural relations, i.e. where the case assignment procedure can see  
 3957 both).

3958 Baker and Bobaljik provide illustrations from different languages in which it appears  
 3959 that there are two internal arguments, e.g., applicatives of unaccusatives, the higher of which  
 3960 is assigned Ergative. For their purposes, this suffices to show that one of the central predic-  
 3961 tions of inherent case approaches is incorrect. Interestingly, none of their examples involve  
 3962 passivization of ditransitives. Deal’s (2017a) discussion highlights the importance of look-  
 3963 ing at such clauses, and notes that are no languages reported as showing derived Ergative  
 3964 subjects in passivized ditransitives in the literature that she surveys. The Sorani IO passive  
 3965 thus appears to be quite unusual typologically. Further discussion of this is left to Sect.  
 3966 6.1.3.

3967 As a first step towards understanding why it might have special case properties, we  
 3968 begin with the ditransitive structure in (102), which is passive and hence has no external  
 3969 argument:<sup>42</sup>

3970 (102) Passive structure



<sup>42</sup>In line with the approaches in Embick 1997; Bruening 2013; Legate et al. 2020; Akkuş 2021. A piece of evidence for the unprojected nature of the external argument in Sorani passives comes from depictives. As shown in (i), depictives require a projected argument to be licensed, and as such may not be associated with the implicit agent of passives, (i.c), represented as *e*.

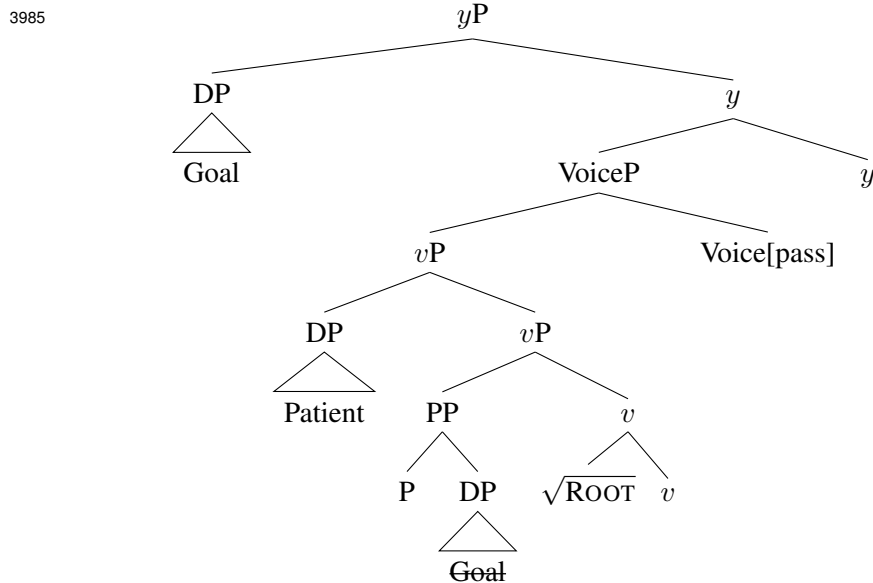
- (i) a. (min) kirêmistî<sub>1</sub>-yeke=m be bestuyi<sub>1</sub> xward.  
 1 SG.pro ice.cream-the=1 SG.CL in frozen eat.PST  
 ‘I ate the ice cream<sub>1</sub> frozen<sub>1</sub>.’  
 b. (min)<sub>2</sub> kirêmistî<sub>1</sub>-yeke=m be serxoşî<sub>2</sub> xward  
 1 SG.pro ice.cream-the=1 SG.CL in drunk eat.PST.  
 ‘I<sub>2</sub> ate the ice cream drunk<sub>2</sub>.’  
 c. kirêmistî<sub>1</sub>-yeke<sub>1</sub> e<sub>2</sub> {be bestuyi<sub>1</sub> / \*be serxoşî} xu-râ  
 ice.cream-the in frozen / in drunk eat.PRS-PASS.PST  
 ‘The ice cream<sub>1</sub> was eaten {\*drunk<sub>2</sub> / frozen<sub>1</sub>}.’

3972 We will assume that the higher subject position in Sorani simply attracts whatever DP is  
 3973 highest in the clause below it. This will mean that there is an additional step in IO passives  
 3974 relative to their DO counterparts.

3975 Concentrating first on the DO passives, it is important repeat the observation that DO  
 3976 passives **do not** involve a derived Subject with Ergative case. Rather, the DO in such pas-  
 3977 sives is Nominative. Within a dependent case theory, this effect could be analyzed as the  
 3978 result of (102) being intransitive: that is, the IO is a PP, and there is no second DP local to  
 3979 the DO that would result in Ergative features being assigned.

3980 In IO passivization, the key observation is that the IO must be moved above the DO in  
 3981 order to be moved later to subject position. We schematize this movement in (103), where  
 3982 the head triggering this movement is given as *y*. Note that as in other constructions seen  
 3983 earlier, the preposition is stranded by movement of its DP complement:

3984 (103) Movement of IO



3986 The nature of this movement raises several questions— for one, it has to specifically target  
 3987 the IO, and not the DO. We do not have a stance on what kind of operation this might  
 3988 be, although it relates to the discussion of leapfrogging movement in the literature (e.g.,  
 3989 Bobaljik 1995; McGinnis 2001; Jeong 2007; Legate 2014; Sheehan 2017).<sup>43</sup>

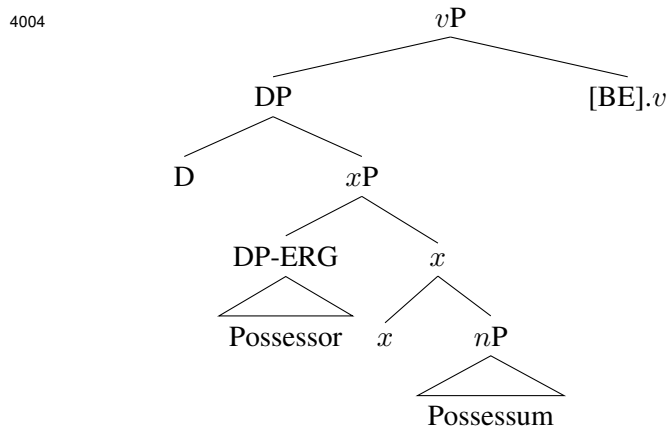
3990 For the purposes of this section, the important aspect of (103) is that it provides a way  
 3991 of thinking about why the IO bears Ergative case features. If the case-assignment procedure  
 3992 is (re)applied to (103), then the clause that it sees does in fact contain another DP argument

<sup>43</sup>A connection can also be drawn to hyperraising (A-movement of an embedded Subject over the matrix Subject, Fong 2019) or A-scrambling of an (embedded) Direct Object over Subject (Göksu in prep). Both of these operations are available in Turkish and require a lower argument to be targeted over a structurally higher one.

3993 that is local to the IO. The derived subject's Ergative case might then be expected along  
 3994 the lines outlined in our discussion of Baker and Bobaljik above. The key question, though,  
 3995 is how to make this behavior of the IO Aspect-insensitive; something about (103) must  
 3996 produce Ergative case in both the imperfective and the perfective (see below).

3997 The next question to ask concerns whether the case-effects produced in (103) might  
 3998 be found in other parts of the language. In particular, we noted at the beginning of this  
 3999 section that it would be instructive to consider what clausal possession and IO passives  
 4000 have in common, since these are the only Ergative/Nominative clause types in the language.  
 4001 Above we analyzed clausal possession with the structure in (104), where the head  $x$  assigns  
 4002 inherent Ergative to the possessor:

4003 (104) Possessive structure

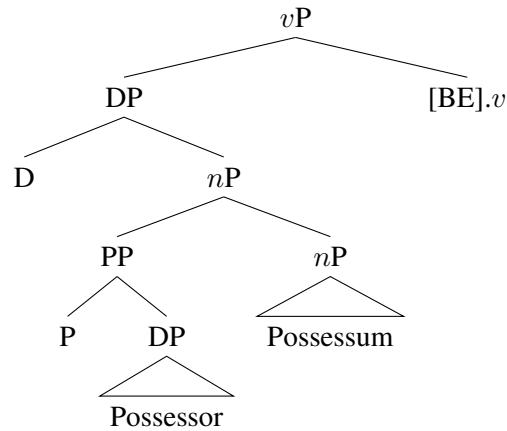


4005 In the light of our treatment of IO passives, it can be seen that this structure has some  
 4006 important properties in common with the parts of the IO passive derivation that are pre-  
 4007 sented in (102) and (103). Specifically, in both of these structures a higher head– the one  
 4008 presented as  $y$ – has to target a DP that is either below another DP (intervener = the DO in  
 4009 IO passives) or contained in another DP (container = the possessum in clausal possession).

4010 The similarities between IO passives and clausal possession raise the question of whether  
 4011 derived Subjects with Ergative might be a property of the latter as well. One way of ap-  
 4012 proaching to this would be to consider an alternative to (104) in which the possessor is  
 4013 generated inside of a PP whose head is null, along the lines shown in (105).

4014 (105) Alternative possessive structure

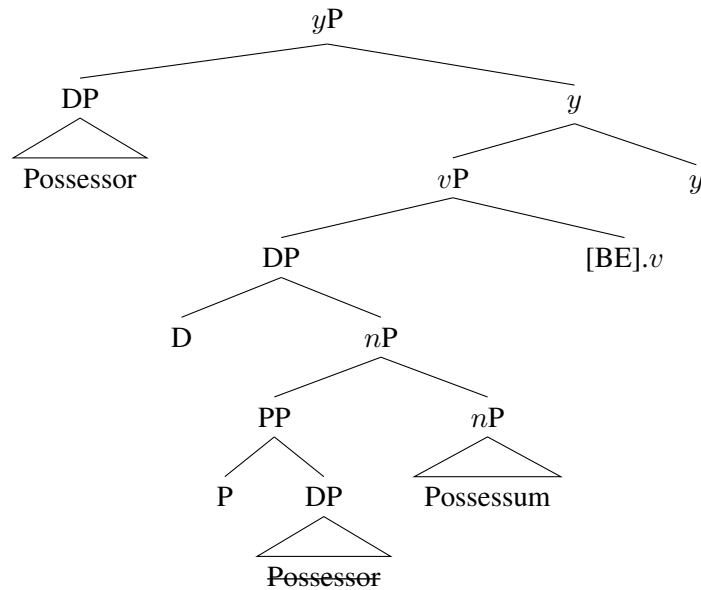
4015



4016 As we discussed in 5.2 above, it is necessary to raise the possessor out of this DP in  
 4017 order for it to become the subject of the clause. Recall that we schematized this with an  
 4018 intermediate movement to a position associated with a head  $y$  (cp. example 80) above):

4019 (106) After possessor movement

4020



4021 The similarities between (103) and (106) are clear— in each case, an argument that is lower  
 4022 than or contained within another DP is moved higher, resulting in it becoming the subject of  
 4023 the clause. It appears that it is the shared immediate stages represented in (103) and (106)  
 4024 that are directly related to the assignment of Ergative case features to the argument that has  
 4025 moved in this way.

4026 *How* exactly this aspect of case assignment should be handled is not something that  
 4027 we will dwell on here. The most obvious way would be to appeal to a configurational-case



4028 approach in which the moved argument is assigned Ergative because of the visibility of the  
4029 local DP that it moves out of/over. Such an approach would need to explain why it is that  
4030 case features can be re-assigned (or “overwritten”) under certain circumstances. As noted at  
4031 various points, objects of prepositions are typically assigned Accusative. Assuming that this  
4032 happens in IO passives as it does elsewhere, this specification would need to be replaced in  
4033 the intermediate movement structures (103) and (106).<sup>44</sup> Since this amounts to changing the  
4034 [-subj] feature of the IO to [+subj], it is in essence a way of expressing the point that these  
4035 arguments are derived Ergatives. Beyond the details of how this feature changing works, a  
4036 further challenge is how to account for the presence of Ergative IO subjects in both aspects.  
4037 There are various ways of conceiving of this abstractly (see Chapter 6 for some related  
4038 points); but these go beyond the scope of this investigation.

4039 In summary, IO passives show what appear to be derived Ergative subjects, and their  
4040 behavior within the indexation follows from the mechanics described to this point for argu-  
4041 ments that are [+subj,+obl]. It remains to be seen how several details will work out when  
4042 these constructions are analyzed within explicit theories of case assignment. We hope at the  
4043 least to have provided a novel analysis that can be used to explore the predictions of such  
4044 theories.

## 4045 5.5 Summary

4046 The goal of this section was to look beyond standard transitive clauses at other types of  
4047 indexation behavior seen in Sorani. The case-studies that we presented center on three dif-  
4048 ferent phenomena; to review:

4049 **Prepositional-Arguments** We showed that while possessors and the arguments of prepo-  
4050 sitions can be realized in expected positions– i.e., attached to the possessed noun, or as the  
4051 complement of a preposition– such arguments can also be *displaced* and realized as MP  
4052 Agreement on the verb, or as an MP Clitic. Carefully delineating the circumstances under  
4053 which these displacements take place reveals a contextual case assignment process in these  
4054 constructions: possessors and P-arguments moving as pronominal clitics bear the same case  
4055 features as DOs in the clauses in which they appear. If there is no DO, displacement is im-  
4056 possible. Once this type of case assignment occurs, the mechanics of indexation proposed

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<sup>44</sup>The assumption that prepositions always assign case in this way could also be abandoned. Consider the examples in (i):

- (i) a. Mary talked to her.
- b. \*Mary talked her.

Taken at face value, these facts suggest that case is assigned to *her* by the preposition *to*. However, in the passive counterpart of (i) this is clearly not what is happening, as seen in (ii):

- (ii) She/\*her was talked to by Mary.

Evidently there are circumstances under which prepositions that typically assign case may not do so.

4057 in Chapter 4 apply without modification to yield the desired results.

4058 **Non-canonical subjects** Non-canonical subject constructions (NCS) refer to verbal clauses  
4059 in Sorani that show Ergative subjects in both aspects. Some of these, which we illustrated  
4060 with *want* here, have their Subjects licensed in an Applicative head. Another type, clausal  
4061 possession– shows ‘double subject’ properties: the possessor agrees in the way typical of  
4062 Ergative arguments (Agreement with  $\mathcal{O}$ ), and the possessum agrees (optionally) in the way  
4063 expected of Nominative arguments (Agreement with T). We argued that these properties are  
4064 produced by movement of the possessor out of the possessed DP.

4065 **Passives of ditransitives** Passivized indirect objects in ditransitive verbs also show the  
4066 indexation pattern typical of Ergatives, in a way that is not conditioned by aspect. Moreover,  
4067 the DO is indexed (optionally) with MP Agreement, in a way that is typical of Nominative  
4068 case. In addition to being typologically unusual– with what appears to be a derived Ergative  
4069 Subject– these constructions provide a further instance in which Tense and  $\mathcal{O}$  heads agree  
4070 simultaneously. We hypothesized that these passives share structural properties with clausal  
4071 possession that produce ergative subjects and dual-subject behavior in both constructions.

4072 The results presented to this point demonstrate how the relevant generalizations can  
4073 be understood in terms of the system of case-targeting indexation developed in previous  
4074 chapters. As we have seen, the behavior of these different argument types fits well within the  
4075 four-case system that we motivated in Chapter 4. At the same time, various assumptions are  
4076 required to make it work. For example, our analysis of P-arguments requires that possessive  
4077 and prepositional argument moving clitics be assigned Objective case.

4078 Within our system, this assumption (and related ones) are motivated by the indexation  
4079 behavior of such arguments. The more general point that we develop in Chapter 6 is that  
4080 assumptions like this are required because the relevant phenomena **must** be analyzed as  
4081 case-driven, because alternatives fall short of explaining the full range of facts to be ac-  
4082 counted for.

4083 On the theme of what kinds of generalizations might be found in the phenomena we  
4084 have examined, an important point is that we have found interesting variants on the Sorani  
4085 patterns in other parts of Iranian. The next section looks at three of these.

## 4086 **5.6 Three comparative studies**

4087 This section presents comparisons with other Iranian languages centered on some of the  
4088 phenomena investigated thus far in Sorani. First, examination of external possession and P-  
4089 arguments in varieties of Laki illustrates further aspects of the syntax of this construction.  
4090 Secondly, we situate the Sorani clausal possession pattern in the larger Iranian context, with  
4091 a focus on the range of indexation patterns seen in possession of this type. Finally, we look  
4092 at experiencer constructions in Modern Persian, and demonstrate that they exhibit the same  
4093 behavior as the inherent oblique subjects in Sorani Kurdish.

4094 **5.6.1 Comparison: External Possession in Laki**

4095 A first comparative topic is external possession in two varieties of Laki.<sup>45</sup> The two Laki  
 4096 varieties we examine here show distinct patterns of external possession that interact with  
 4097 the indexation system. The patterns have parallels in the literature on possessor raising, and  
 4098 thus contribute to the understanding of external possession as analyzed in 5.1 above.

4099 For the sake of exposition, we will refer to the two varieties to be examined as *Standard*  
 4100 *Laki* (SL) and *Aleshtar Laki* (AL), even though more than one variety could fall under the  
 4101 former label.<sup>46</sup> Both types of Laki are identical to SSK in terms of the major properties  
 4102 that we have examined above: they are described as showing a ‘tense’-sensitive alignment  
 4103 split (an *aspectual* split in our terms), and MP clitic placement displays the kind of second-  
 4104 position behavior that is seen in Sorani. In addition, the indexation of Subjects and Direct  
 4105 Objects shows a mirror image effect in the imperfective and perfective aspects, which are  
 4106 Nominative/Accusative and Ergative/Objective respectively. The examples in (107) show  
 4107 indexation of the 3pl Agent in MP agreement form (imperfective (107a)) and MP clitic  
 4108 form (perfective (107b)):

- 4109 (107) a. ali yo maryam to-na ma-šnās-en.  
 Ali and Maryam you-IND IND-know.PRS-3PL  
 4110 ‘Ali and Maryam know you.’<sup>47</sup>  
 4111 b. ali yo maryam to=**nān** šenāsi.  
 Ali and Maryam you=3PL know.PST  
 4112 ‘Ali and Maryam knew you.’

4113 An interesting feature that distinguishes both Laki varieties from Sorani is that even  
 4114 though clitic-placement is VP-based in both languages, in Laki the 3sg clitic invariably  
 4115 surfaces on the verb.<sup>48</sup> Other person-number combinations appear in the more commonly

<sup>45</sup>See [Mohammadirad 2020b](#). Laki is spoken in Iran, in the north of Lorestan province up to the southeast of Kermanshah and south of Hamedan provinces, as well as in some areas in the Ilam province. The transcriptions vary among studies; we abstract away from such details here.

<sup>46</sup>For related effects, the variety spoken in Kakevandi has been reported to show properties that make it closer to SL or AL in different studies ([Mohammadirad 2020b](#); [Kahnemuyipour and Taghipour 2020](#) versus [Mohammadirad 2021](#), respectively). We believe this to be the result of grammars of individuals involved.

<sup>47</sup>What we mark as IND is glossed as SP ‘specificity’ in ([Kahnemuyipour and Taghipour 2020](#)). However, we take it with [Mohammadirad \(2020b\)](#) that it is actually part of the imperfective marker (in our terms, the indicative mood marker), which has the periphrastic form *-a ma-*. The first element always attaches to the left, while the second prefixes to the verb stem.

<sup>48</sup>This is illustrated for transitive agents in the past, (ia-b), and DO clitics in the present, (i.c). In the Sorani counterpart of (i.c), the 3sg clitic *ē* would be on the nonverbal element *šekar* ‘hunting’ (for the different forms of the 3sg clitics in these examples recall the point about transcription in fn. 45).

- (i) a. ali maryam šenās=i.  
 Ali Maryam know.PST=3SG.A  
 ‘Ali knew Maryam.’ ([Kahnemuyipour and Taghipour 2020:fn4](#), (i))  
 b. tamām māhīl-ā hwārd-ē.  
 all fish-PL-DEF eat.PST-3SG:A  
 ‘He ate all the fish.’ ([Mohammadirad 2020b:379](#), (977))

4116 expected position, i.e., on the nonverbal element of a light verb construction, as shown for  
 4117 3pl in (108).

- 4118 (108) a. hord=**an**-a            m-aka-*m*.  
           chop=3PL.CL-IND IND-do.PRS-1SG  
 4119            ‘I chop them.’ (Kahnemuyipour and Taghipour 2020:(34))  
 4120        b. tasmīm=**ān**            girt.  
           decision=3PL.CL take.PST  
 4121            ‘They made a decision.’

4122        These initial observations indicate that (in spite of the complication with the placement  
 4123 of 3sg agreement) these Laki varieties are quite similar to Sorani in terms of indexation  
 4124 properties. However, SL and AL differ crucially from each other in terms of the conditions  
 4125 under which external possession and P-argument displacement are possible.

4126        SL is subject to the same restrictions as SSK. For example, *MP-Agr displacement* is  
 4127 possible with the possessor object of a transitive verb, (109), but not the possessor of an  
 4128 unergative argument (110).

- 4129 (109) a. kwil šakar-a=**m**            hwārd-*m̄n*.  
           all sugar-DEF=1SG.CL eat.PST-2SG.POSS  
 4130            ‘I ate all your sugar.’  
 4131        b. keyk-a=**man**            ward-*in*.  
           cake-DEF=3PL.CL eat.PST-3PL.POSS  
 4132            ‘We ate their cake.’  
 4133 (110) a. brā-yl-a=**m**            hat-*in*.  
           brother-PL-DEF=1SG.POSS come.PST-3PL  
 4134            ‘My brothers came.’  
 4135        b. \*brā-yl-a            hat-*in-im*.  
           brother-PL-DEF come.PST-3PL-1SG.POSS  
 4136            ‘My brothers came.’ (Mohammadirad 2021:(8b))

- 
- c. xirs-a    b-ā-y                            o    *pro* šekār    ka-n=ē.  
 bear-DEF IRR-come.PRS-3SG and    hunting do.PRS-3PL.A=3SG.O  
 ‘That the bear come over and they hunt it.’ (Mohammadirad 2020b:381, (988))

In the imperfective as well, the 3sg pronominal object is realized on the verb, (ii), even in cases where there is a higher potential host like in (ii.b).

- (ii) a. ma-ka-y-men-ē                            a    dī.  
           IND-do.PRS-come.1PL-3SG.O to see  
           ‘We will find him.’ [lit. We will bring him into sight] (Mohammadirad 2020b:380, (983))  
 b. arān=it            kil    ka-m=ē.  
           for=2SG.CL round do.PRS-1SG-3SG.O  
           ‘That I send it over to you.’ (Mohammadirad 2020b:382, (996))

4137 Other restrictions we noted for Sorani apply to Standard Laki as well, suggesting that the  
4138 analysis with four cases that we developed for SSK can be extended straightforwardly to this  
4139 variety. In particular, MP-Agr Displacement is restricted to arguments that bear Objective  
4140 case.<sup>49</sup>

4141 Interestingly, external possession in Aleshtar Laki (AL) occurs under a set of conditions  
4142 that are distinct from those found in SL (and SSK). When viewed next to SL, these differ-  
4143 ences parallel certain kinds of cross-linguistic variation reported in comparative studies of  
4144 possessor raising (see e.g., Deal 2017a for an overview).

4145 An important initial observation for AL is that– like in many other languages that show  
4146 possessor raising, or something like it– external possession (with the possessor realized  
4147 as MP-agreement) is not always equivalent in meaning to its internal possession counter-  
4148 part. In particular, external possessors in many languages are interpreted in a way that goes  
4149 beyond simple possession. This effect is found with possessor dative constructions that  
4150 have been analyzed in some more well-studied languages such as French, Spanish, and  
4151 Hebrew (see Guéron 1985; Borer and Grodzinsky 1986; Landau 1999; Cuervo 2003; Deal  
4152 2017a). The additional interpretation has been typically identified as *beneficiary* or *affected*  
4153 in cross-linguistic studies, with the intuition being that the possessor must be (positively or  
4154 negatively) affected for the external possession construction to be semantically appropriate.

4155 Mohammadirad (2020b) reports that AL behaves exactly along these lines: external  
4156 possession is possible only if the possessor is affected by the described situation. So, for  
4157 example, the possessor is interpreted as positively affected by the washing in (111):<sup>50</sup>

4158 (111) **sār-a** ma-šūr-im=e.  
head-IND IND-wash-1SG=3SG.POSS  
4159 ‘I wash his head.’ (inalienable) (Mohammadirad 2021:(24)) (AL)

4160 External possession in AL is also restricted to inalienable possession; thus in (111) the  
4161 possessor must be understood as the person whose head is being washed (it could not be  
4162 e.g. the head of the possessor’s doll).

4163 The affectedness condition does not hold in other SSK and SL varieties. Thus, the ex-  
4164 ample in (112) can be uttered even if the possessor is dead, thus cannot be affected, in  
4165 Sorani (and likewise its counterpart (113) in standard Laki).

4166 (112) [Context: the owners of the car are dead.]

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<sup>49</sup> From what we can tell, Hawrami (Holmberg and Odden 2004) also behaves similarly to Sorani and SL for possession.

<sup>50</sup> In all Kurdish varieties, the possessor can be inanimate. This holds also for AL, as shown in (i), as long as the inanimate possessor is construed in a manner in which it gets affected by the event (which in many cases corresponds to physical affectedness or impact, but not necessarily). In (i), for example, the sale of the product positively affects the product.

(i) firūš xū bī-t-tē.  
sell good COP.PST.3SG-EP=3SG.POSS  
‘Its sale was good.’ (AL, inanimate, Mohammadirad 2021:(31))

4167 Otombel-aka=**man** bird-*in*  
car-the=1PL.CL took-PL

4168 ‘We took their car away.’ (SSK)

4169 (113) keyk-a=**man** ward-*en*.  
cake-DEF=1PL.CL eat.PST-3PL

4170 ‘We ate their cake.’ (SL, [Kahnemuyipour and Taghipour 2020:3a](#))

4171 Examples of this type are not possible in AL, where the possessor must be alive in order  
4172 to be affected in the appropriate way.

4173 AL and SL also differ on the second point noted above, the type of possession involved.  
4174 In Sorani varieties and SL, both alienable and inalienable possession are licit with external  
4175 possession, as seen in (114) and (115).

4176 (114) SSK

4177 a. dast=*im* girt-*t̄*  
hand=1SG.CL grab.PST-2SG.POSS

4178 ‘I grabbed your hand.’ (inalienable)

4179 b. Otombel-aka=*yan* bird-*în*  
car-the=3PL.CL take.PST-1PL.POSS

4180 ‘They took our car away.’ (alienable)

4181 (115) SL

4182 a. das=*t-a* ma-girt-*im*  
hand=2SG.CL-IND IND-take.PST-1SG.POSS

4183 ‘You would take my hand.’ (inalienable)

4184 b. kwil šakar-a=*m* hwārd-*în*.  
all sugar-DEF=1SG.CL eat.PST-2SG.POSS

4185 ‘I ate all your sugar.’ (alienable)

4186 In AL, as noted earlier, only inalienable possession is allowed for external possession,  
4187 which primarily occurs with body parts as possessum (116a). Because alienable posses-  
4188 sion is ungrammatical with the external possession construction, (116b), they are invariably  
4189 expressed with internal possession, (116c):

4190 (116) a. **sār**-a ma-šūr-*im=e*.  
head-IND IND-wash-1SG=3SG.POSS

4191 ‘I wash his head.’ (inalienable) ([Mohammadirad 2021:\(24\)](#)) (AL)

4192 b. \*mi **libās**-*ēl-a* ma-šūr-*im=e*.  
1SG.pro clothes-PL.DEF-IND IND-wash-1SG=3SG.POSS

4193 ‘I wash his clothes.’ (alienable - external possession)

4194 c. mi libās-ēl-a=y-a ma-šūr-im.  
 1 SG.pro clothes-PL-DEF=3 SG.POSS-IND IND-wash-1 SG  
 4195 ‘I wash his clothes.’ (alienable - internal possession) (Mohammadirad 2021:(25))  
 4196 (AL)

4197 Another property of external possession in AL is that it is not limited to Direct Objects  
 4198 of transitives, as is the case in SSK and SL. Instead, it appears to be licit with a larger  
 4199 category of deep objects, e.g., the sole arguments of unaccusatives and nonverbal predicates,  
 4200 (117).

4201 (117) a. unaccusative  
 4202 pā suř-a ma-dirē-t=ē.  
 foot slip-IND IND-take.PRS-3 SG=3 SG.POSS  
 4203 ‘He slips.’ [lit. his feet slip] (AL, Mohammadirad 2021:(13))  
 4204 b. nonverbal  
 4205 sidā bam nīya-s=ē.  
 voice rough NEG-COP.3 SG=3 SG.POSS  
 4206 ‘Her voice is not harsh.’ (AL, Mohammadirad 2021:(30))

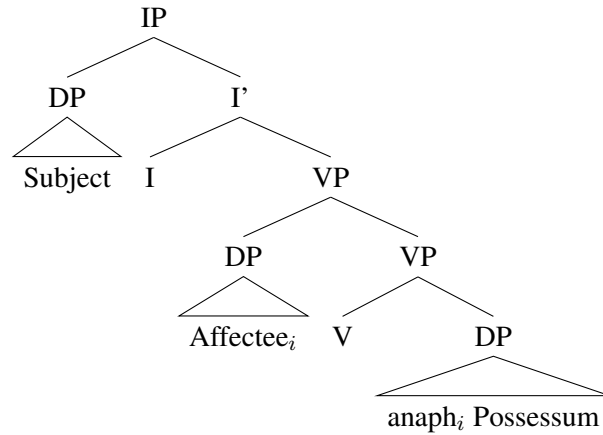
4207 To provide context for interpreting these differences, we turn now to existing proposals  
 4208 that have been put forth to capture the asymmetries between different types of external  
 4209 possession.

4210 An early approach to external possession is centered on the idea that it is derived from  
 4211 internal possession via a syntactic rule, i.e., the raising of the possessor from its original po-  
 4212 sition to a higher position (e.g., Keenan 1972; Kuno 1975, as well as Keach and Rochemont  
 4213 1994; Landau 1999). Putting to the side for the moment details about the movement op-  
 4214 eration, a crucial component of this type of a *raising* analysis is that external and internal  
 4215 possession are expected to be interpreted in exactly the same way. Thus, the recognition  
 4216 that not all instances of external possession are semantically equivalent to their internal  
 4217 possession counterpart led to an alternative conception of this possessor type, according  
 4218 to which there is base-generation of the possessor in a configuration distinct from internal  
 4219 possession.

4220 In this type of approach, an affectee argument is base-generated in position that is higher  
 4221 than the possessed DP, and is coreferential with a separate possessor argument in that nom-  
 4222 inal. This idea is represented somewhat abstractly in (118), adapted from Deal (2017a).

4223 (118) affected external possession

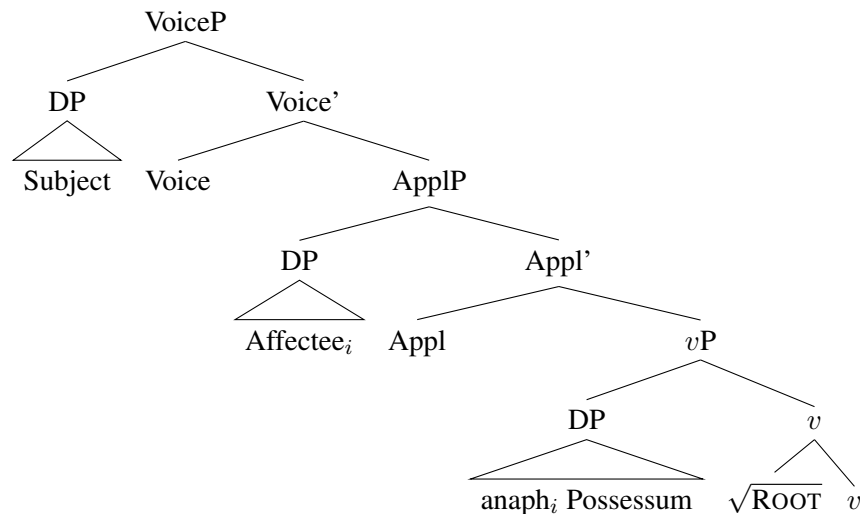
4224



4225 The difference between the first type of analysis and this one is essentially that between  
 4226 Raising and Control: in the former, there is a single thematic relation associated with the  
 4227 raised argument, whereas in the latter a single DP is associated with two. For the contrast  
 4228 between SL/Sorani on the one hand and AL on the other, the idea would be that the former  
 4229 show true possessor raising (implemented on our analysis as Clitic Movement), whereas the  
 4230 latter has control, along the lines of (118). More specifically, the idea is that the possessor  
 4231 in AL is base-generated in an applicative projection, as shown in (119), whose position also  
 4232 captures its restriction to deep objects. From its merge position in Spec,AppIP, the clitic  
 4233 moved pronoun moves to T, where it is realized as MP Agr.

4234 (119) Possession structure: AL

4235



4236 The possessor in this structure is an affected argument, since it is interpreted with a  
 4237 thematic relation that is introduced by the Appl head. It is interpreted as a possessor as well  
 4238 by virtue of controlling the anaphor inside of the possessed DP. By way of contrast, the



4239 possessors in Sorani and SL are simply clitic moved out of the possessed DP. They are not  
4240 interpreted as holding an additional thematic relation in the way just described for AL.

4241 The difference in where possessors are generated (and how they relate to the possessed  
4242 DP) is the main point of interest in our comparison. The other differences between AL and  
4243 Sorani/SL—restriction of external possession to inalienable possession, and availability with  
4244 unaccusatives—appear to be due to other factors that have been analyzed in the literature  
4245 (see e.g., Guéron 1985, 2006; Borer and Grodzinsky 1986, and Deal 2017a for an overview).

4246 Despite the difference in where the possessor is generated in Sorani/SL versus AL, it is  
4247 important all of these languages behave the same way in terms of how the possessor enters  
4248 the indexation system. In all three it behaves like a pronominal that moves to the T head  
4249 and is realized as MP-Agreement. Taken together, the facts considered in this section show  
4250 how languages may differ in terms of the syntactico-semantic properties of a construction,  
4251 but nevertheless behave similarly with when it comes to how the relevant arguments are  
4252 indexed.

### 4253 5.6.2 Comparison: Clausal possession across Iranian

4254 As we saw above, clausal possession in Sorani shows special indexation properties: such  
4255 clauses appear to have an Ergative possessor and Nominative possessum, with  $\mathcal{O}$  and T both  
4256 agreeing (though optionally for the latter):

4257 (120) *min se xushk=im he-ye / he-n.*  
1SG.pro three sister=1SG.CL exist-COP.PRS / exist-COP.PRS.PL  
4258 ‘I have three sisters.’

4259 In this section, we frame our analysis of Sorani clausal possession in the larger Iranian  
4260 context by examining its realizations across various languages. Our discussion adapts Mo-  
4261 hammadirad’s (2020a) typology, which makes a four-way distinction. When we concentrate  
4262 on indexation properties, there appear to be two different types of languages within those  
4263 surveyed by Mohammadirad: one group in which the possessum is agreed with, and one in  
4264 which both the possessor and the possessum agree.

4265 **Agreement with possessum only** We first show that agreement with the possessum (even  
4266 though this is optional in Sorani) is well attested in two other kinds of clausal possession  
4267 within Iranian. In one of these, which is attested in Old Persian, the possessor functions as  
4268 a topic, and the possessum agrees with the existential/copular stem. Two examples of this  
4269 are shown in (121).

4270 (121) a. *Dārayavahauš puçā aniyaiciy āhantā.*  
Darius.GEN.M.SG son.NOM.M.PL other.NOM.M.PL exist.3PL.IPFV.MID  
4271 ‘Darius had other sons.’ (lit. ‘Of Darius, other sons existed’)  
4272 (Old Persian; Schmitt 2009:162, XPf, via Mohammadirad 2020a:4)

4273 b. *utā=taiy tauhmā vasiy biyā*  
and.also=2S.GEN seed much may.be  
4274 ‘and may you have much seed (offspring)’ (DbIV, 56)

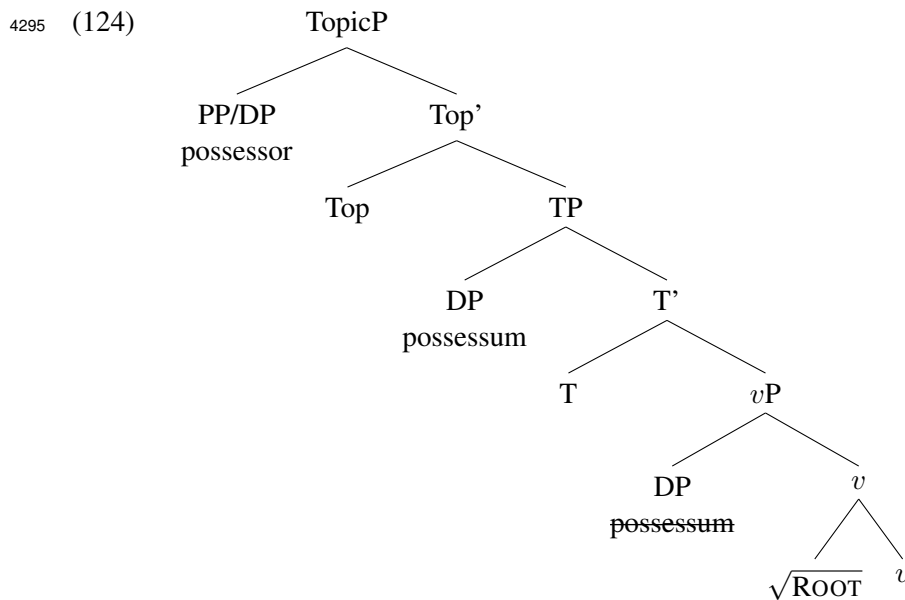
4275 In modern Iranian languages, [Mohammadirad \(2020a\)](#) posits two subtypes for lan-  
 4276 guages that show this kind of clausal possession. These differ in terms of whether the pos-  
 4277 sessor exhibits what he calls “topic” and “goal” schemas respectively. Examples of each are  
 4278 given in (122) and (123). In a “topic schema” language like Badini (a dialect of Northern  
 4279 Kurdish), the possessor is topicalized and the possessum controls agreement, in a way that  
 4280 directly reflects the type of possession seen in Old Persian above:

4281 (122) *naqlakē hakim-ak-ī sē kur habō-n.*  
 at.a.time prince-a-OBL three son exist.PST-PL  
 4282 ‘Once a prince had three sons.’ (lit. ‘once to-a-prince three sons existed’) (Badini;  
 4283 [Haig 2008: 258](#), citing [MacKenzie 1962:320](#))

4284 The “goal schema” languages are characterized by the presence of the multifunctional  
 4285 postposition *rā*, and the possessum is the subject, as illustrated in (123) from Central  
 4286 Taleshi.

4287 (123) *i-la merdi-rā karg-i hest be*  
 a-CLF man-for hen-a exist COP.PST  
 4288 ‘A man had a hen.’ (lit. ‘there existed a hen for a man’) (Central Taleshi; [Moham-  
 4289 madirad 2020a:14](#))

4290 The structure of fronted possessors are roughly schematized in (124), where the posses-  
 4291 sor occupies a position in the CP domain, while only the possessum occurs clause-internally  
 4292 and triggers agreement. It remains to be seen whether the possessor in this group of lan-  
 4293 guages originates in the left periphery or is moved there out of the phrase that also contains  
 4294 the possessum.



4296 As we saw in Chapters 3 and 4, topicalized elements stand outside of the system of index-  
 4297 ation in Sorani. The type of clausal possession with a fronting of this type has the same  
 4298 property.

4299 Beyond the two types just reviewed, [Mohammadirad](#) posits a third group of languages  
 4300 in which “topic schema” has shifted to “genitive” schema, expressed via the *Ezafe* construc-  
 4301 tion; we introduced this above in Sorani— recall that it is a linker morpheme that introduces  
 4302 dependents of the noun including attributive adjectives, possessors. Examples are provided  
 4303 in (125)-(126) from Zazaki and Kurmanji. In these dialects, the possessor is a genitival mod-  
 4304 ifier of the possessum, and the verb agrees with the possessum: 3sg feminine for ‘sheep’ in  
 4305 (125a), ‘rifle’ in (125b), ‘book’ in (126b), and 3pl for ‘friends’ in (126a).

4306 (125) *Zazaki*

- 4307 a. yew mešnā-y mi est-ā.  
 a sheep-EZ 1SG.OBL exist.PRS-3SG.F  
 4308 ‘I have a sheep.’ ([Paul 1998:270](#))
- 4309 b. tıvıng-a Simko-y est-ā.  
 rifle-EZ.F Simko-OBL exist.PRS-3SG.F  
 4310 ‘Simko has a rifle.’ ([Todd 2002:60,\(164\)](#))

4311 (126) *Kurmanji*

- 4312 a. heval-ān me he-ne.  
 friend-EZ.PL 1PL.OBL exist.PRS-PL  
 4313 ‘We have friends.’ ([Bedir Khan and Lescot 1970:229](#))
- 4314 b. kitab-a Hasan/min  
 book-EZ.F Hasan/1SG.OBL  
 4315 ‘Hasan’s/my book’

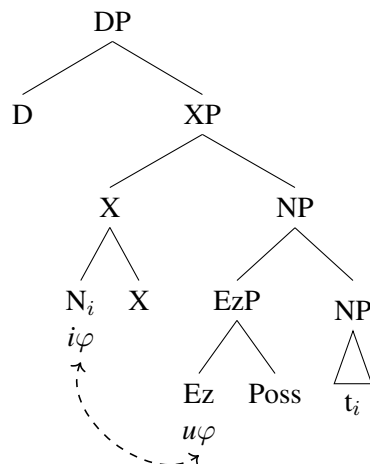
4316 For the purposes of indexation, this type of clause behaves just like the ones seen above,  
 4317 with agreement targeting only the possessum. Structurally, though, the *Ezafe* possession  
 4318 construction differs from the type schematized in (124). What is fronted in the former case is  
 4319 the possessor; in the *Ezafe* case, it is the entire possessed DP, which contains the possessor.

4320 We adopt the syntax of *Ezafe* in (127), in which the *Ezafe* head *Ez* does not form a  
 4321 constituent with the head noun, but with the dependent.<sup>51</sup> To derive the linear order of the  
 4322 head noun relative to possessors and adjectives *N* moves leftward to a position where it c-  
 4323 commands the *Ezafe*: that is, to a position above the possessor and any adjectives (whether  
 4324 it is to *D* or another head makes no difference for present purposes).

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<sup>51</sup>There is a long debate about the syntactic role of the *Ezafe* in the noun phrases. It has been argued to be a case assigner for nominal dependents, or the counterpart of English *’s/of*, a trigger for predicate inversion or a head marker (see e.g., [Larson and Samiiian 2021](#); [Toosarvandani and Van Urk 2014](#); [Holmberg and Odden 2008](#); [Ghomeshi and Ritter 1996](#); [Kahnemuyipour 2014](#); [Samvelian 2007b](#)). We do not take a stance on this issue, and adopt the structure given in [Toosarvandani and Van Urk 2014](#) for exposition.

4325 (127)



4326 In this analysis, Ezafe is a probe that searches for a suitable goal to agree with, and  
 4327 it always agrees in  $\varphi$ -features of the head-noun (see Toosarvandani and Van Urk 2014 for  
 4328 more details).

4329 **Possessor as subject** Mohammadirad (2020a) places the majority of the Western Ira-  
 4330 nian languages, including Sorani, into this group. Similar to the languages with Ezafe seen  
 4331 above, those of this type show realization of the possessor with an oblique clitic. However,  
 4332 in contrast to the Ezafe type, the languages in this group have undergone a type of reanalysis  
 4333 in which the fronted topic possessor becomes the grammatical subject, and is obligatorily  
 4334 indexed by an MP clitic.<sup>52</sup> This reanalysis has consequences for the possessum argument.  
 4335 In particular, Mohammadirad reports that the possessum does not *usually* show agreement  
 4336 with the existential/copular verb (Mohammadirad 2020a:508).

4337 This appears to be one instance of a more general type of reanalysis that has oc-  
 4338 curred in Iranian. For example, the developments outlined above are exactly what Jügel  
 4339 and Samvelian (2020) propose for experiencer constructions in Persian: the experiencer,  
 4340 which starts out as a hanging topic (and resumed by an enclitic pronoun) is reanalyzed as a  
 4341 grammatical subject (with the clitic then functioning as MS agreement). For clausal posses-  
 4342 sion, the idea is that the possessum takes on a distinct set of behaviors due to the fact that  
 4343 the clause now contains a higher subject. In particular, the possessum now triggers optional  
 4344 agreement, though this may not be the first option for speakers (thus, Mohammadirad’s use  
 4345 of ‘usually’).<sup>53</sup>

4346 In addition to many examples provided above from Sorani, we provide more examples  
 4347 below from other Iranian languages of this category (see Kareem 2016 for more illustrations  
 4348 of this phenomenon, where the indexation of the possessum is also treated as *object-verb*

<sup>52</sup>This does not mean that the languages of the fourth group have lost the Ezafe construction; as seen in Sorani in §5.1, it is found in nominal possession.

<sup>53</sup>The same path has also been argued to take place for the historical development of Ergative alignment as well. According to this view, the Subject originally appears as a hanging topic, resumed by an enclitic pronoun. This co-indexation is then reanalyzed as a subject-verb agreement (Bynon 1979; Jügel 2009). This view is controversial, however; see Haig (2008) and references cited there.

4349 *agreement*). Note that in these languages as well, no complementarity exists between pos-  
 4350 sessum and the MP agreement, and the possessum can optionally trigger agreement on the  
 4351 predicate, as shown in (128)-(129).<sup>54</sup>

4352 (128) bāx-ē=š                      ha-n.  
           garden-PL.DIR=3SG.CL exist.PRS-PL  
 4353           ‘He has (some) gardens.’ (Gorani Takht; [Mohammadirad 2020a:17](#))

4354 (129) a. žiwâ=m                    hæŋ-(æ).  
           Zhiwa.F=1SG.CL exist.PRS-3F  
 4355           ‘I have Zhiwa.’  
 4356         b. to=m                      hæŋ-(i).  
           you.sg=1SG.CL exist.PRS-2SG  
 4357           ‘I have you.’ (Hawrami; [Holmberg and Odden 2004:\(44-45\)](#))

4358         Patterns similar to those illustrated above can be shown to hold for Iranian languages  
 4359 that establish the possessive relation through the verb *dār* ‘have,’ or its cognates *dir/der/dar*.  
 4360 Specifically, some such languages show agreement only with the possessor, while others  
 4361 appear to show agreement with the possessum in addition to this.

4362         For the most part, in these languages ‘have’ behaves like a regular transitive verb, with  
 4363 the possessor as the grammatical subject and the possessum as the internal argument. As  
 4364 such, in many varieties, the verb agrees with the possessor through inflectional morphol-  
 4365 ogy in the present stem, (130), or via clitic person markers in the past stem, (131). The  
 4366 possessum argument does not trigger agreement.

4367 (130) ez       ila ka=ni       dār-m.  
           1SG.pro one house=also have.PRS-1SG  
 4368           ‘I have another house.’ (Southern Taleshi; [Paul 2011:254](#))

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<sup>54</sup>Note that treating the possessum as a Nominative-bearing argument predicts the non-subject argument should show *pro*-drop, just like the grammatical subject, since both have the [+subj] feature. This seems to be the case, as seen in (i) (when the possessum is *pro*-dropped, the MP-clitic marking the possessor subject is moved onto the verb).

- (i) a. (amin) hæŋ-i=m.  
           1SG.pro exist-2SG=1SG.CL  
           ‘I have you.’ (Hawrami; [Holmberg and Odden 2004:\(45\)](#))  
       b. (min) ha=m-îŋ.  
           1SG.pro exist=1SG.CL-2SG  
           ‘I have you.’ (SSK/GK)  
       c. (ême) ha=man-îŋ.  
           1PL.pro exist=1PL.CL-2SG  
           ‘We have you.’ (SSK/GK)

4369 (131) *di bāxebun se tā sabad=oš dārt.*  
 this gardener three CLF basket=3SG.CL have.PST  
 4370 ‘This gardener had three baskets.’ (Naeini; [Mohammadirad 2020a:36](#))

4371 Interestingly, in some dialects the possessum has also developed into another argument  
 4372 that may trigger agreement, as shown in (132) for Badrudi (spoken in the rural district of  
 4373 Natanz, central Iran). This is a further manifestation of the points of variation in clausal  
 4374 possession: the number of probes that are active in a given language. While many Iranian  
 4375 languages with “have”-possessives seem to have a single probe, languages like Badrudi  
 4376 have evidently incorporated another probe into their clausal spine.<sup>55</sup>

4377 (132) *i dune boz bo se duno bozqālu=š dard-en.*  
 a CLF goat COP.PST.3SG three CLF goat.kid=3SG.CL have.PST-3PL  
 4378 ‘There was a goat who had three kids.’ (Badrudi; [Mohammadirad 2020a:38](#))

4379 In short, the situation with “have” shows points of variation similar in appearance to  
 4380 clausal possession with the existence predicate. Some languages show agreement only with  
 4381 the possessor, while in others it appears that there is agreement with the possessum as  
 4382 well. The underlying mechanisms involved in these scenarios appear to be quite different,  
 4383 though. In Sorani, double agreement arises from Ergative/Nominative, a type of double-  
 4384 subject clause. In Badrudi, on the other hand, the double agreement found with ‘have’ is  
 4385 in a clause that appears to have the morphosyntactic properties of typical transitive clauses.  
 4386 As far as this goes, double agreement is also available with canonical transitive predicates  
 4387 at least in the perfective, as shown in (133), where the agreement with the direct object is  
 4388 described as “... a reflex of the older ergative construction, [where] the verb agrees overt  
 4389 object NPs in past transitive constructions” in [Mohammadirad \(2020a: 444\)](#).

4390 (133) *axo qāyem bedon min=eš na-xard-on.*  
 1SG.pro hidden become.PST.1SG 1SG.pro=3SG.CL NEG-eat.PST-1SG  
 4391 ‘I hid, (so) he (The wolf) didn’t eat me.’ (Badrudi; [Mohammadirad 2020a:167,\(303\)](#))  
 4392 (134) *šangul o mangul=eš ba-xard-en.*  
 Shangul and Mangul=3SG.CL PUNCT-eat.PST-3PL  
 4393 ‘(The wolf) ate Shangul and Mangul.’ (Badrudi; [Mohammadirad 2020a:445,\(1324\)](#))

4394 It is an open question whether ‘have’ shows all properties of a canonical transitive  
 4395 predicate, e.g., can be passivized in Badrudi.

<sup>55</sup>Recall that clausal possession in Southern Balochi too involves agreement with the possessor and the possessum regardless of the aspect.

(i) *mæn-a ketab=on hæst-ænt*  
 1SG.pro-OBL book=1SG.CL be-3PL  
 ‘I have the books.’ (Southern Balochi, [Hamo and Meihami 2023:22](#))

4396 **Summary** As seen in the discussion of this section, the type of clausal possession in  
4397 Sorani that we analyzed in 5.2 is one of many types of possessive construction attested in  
4398 Iranian. The overview in this section points to at least two topics for further research.

4399 The first of these is centered on the details of the different types of possession seen  
4400 above. While published studies provide enough information for us to speculate about the  
4401 structural properties of many of these, it remains to be seen what will be revealed when  
4402 these (and other) languages are probed at the level of detail that we were able to provide in  
4403 the analysis of Sorani in 5.2.

4404 A second topic concerns the diachronic developments that produced the different clause  
4405 types. A project that suggests itself given what we have seen above would be to explore the  
4406 developments underlying the reanalysis of topics as subjects– and the concomitant changes  
4407 that this reanalysis produces for indexation– in terms of a framework like the one employed  
4408 in this book.

### 4409 **5.6.3 Comparison: Oblique subjects in Modern Persian**

4410 This section provides a discussion of *experiencer* constructions in Modern Persian. These  
4411 show inherent oblique subjects in both tenses/aspects, similar to Kurdish varieties. How-  
4412 ever, unlike the other Iranian languages we have seen above, Modern Persian does not have  
4413 an alignment split; it is characterized as a typical Nominative/Accusative language. The ex-  
4414 amination of experiencer subjects suggests a modification to this description, with a third  
4415 case being required.

4416 Jügel and Samvelian (2020) discuss Modern Persian experiencer constructions from  
4417 both a diachronic and synchronic perspective, and arrive at conclusions that are in many  
4418 ways the same as those we reached in 5.2 for non-canonical subject constructions (NCSs)  
4419 in Sorani Kurdish varieties. In particular, they demonstrate that the relation between the  
4420 experiencer argument and its cross-indexing enclitic is an instance as MS agreement, with  
4421 the experiencer showing grammatical subject properties.<sup>56</sup>

4422 As noted above, typical clauses in Persian exhibit Nominative/Accusative alignment.  
4423 Subject indexation is realized as MP agreement in both present and past tenses. Consider  
4424 (135) and (136).<sup>57</sup>

- 4425 (135) a. man ruznāme-rā mi-xān-am.  
1SG.pro newspaper-ACC PROG-read.PRS-1SG  
4426 ‘I am reading the newspaper.’ (Haig 2008:7,(1))  
4427 b. man be šahr mi-rāv-am.  
1SG.pro to town PROG-go.PRS-1SG  
4428 ‘I am going to town.’ (Haig 2008:7,(2))

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<sup>56</sup>Although their discussion focuses on dyadic experiencer predicates, similar properties also hold for monadic intransitive predicates with experiencer subjects, e.g., ‘be cold’, ‘be tired’ (as is the case in other Iranian languages; cp. 5.2).

<sup>57</sup>The status of the morpheme *-rā* is a matter of debate; although we gloss it as ACC following Haig (2008:7), it is usually treated as a Differential Object Marker. See e.g., Karimi 2005; Karimi and Smith 2020 for discussion.

- 4429 (136) a. man ruznāme-rā xān-d-am.  
 1SG.pro newspaper-ACC read-PST-1SG  
 4430 ‘I read the newspaper.’ (Zahra Mirrazi Renani, p.c.)  
 4431 b. man be šahr rāf-t-am.  
 1SG.pro to town go-PST-1SG  
 4432 ‘I went to town.’ (Zahra Mirrazi Renani, p.c.)

4433 The predicates falling under the ‘Experiencer’ label refer to a psychological, mental or  
 4434 physical state, implicating an Experiencer (or Beneficiary) argument. The relevant construc-  
 4435 tions are complex predicates consisting of a verb and preverbal element, generally a noun  
 4436 or an adjective. The latter conveys the conceptual/lexical meaning of the predicate (e.g.  
 4437 *qosse* ‘sorrow,’ *hasudi* ‘jealousy’... ) while the verb is a light verb (e.g. *sodan* ‘become’,  
 4438 *gereftan* ‘to take’, *zadan* ‘to hit’...) and has little if any lexical semantic contribution. The  
 4439 crucial point for our purposes is how the Experiencer is indexed: this DP is co-indexed with  
 4440 a clitic that is attached to the nonverbal-element within the complex predicate, as shown in  
 4441 the following examples.<sup>58</sup>

- 4442 (137) a. **ādam** vahšat=eš mi-gir-ad.  
 human fear=3SG.CL IPFV-take-PRS-3SG  
 4443 ‘One is afraid.’ (Jügel and Samvelian 2020:7)

<sup>58</sup>Karimi (2005:ch. 2.4.) interprets the absence of MP agreement with the verb as an indication that the experiencer DPs are not subjects (for her, these are thus what she calls ‘subjectless constructions’, an umbrella term that covers both monadic and dyadic experiencer predicates). However, we believe the evidence supports the claim that the Experiencer is the subject; cf. Jügel and Samvelian (2020) (as well as Sedighi 2010).

As it turns out, Jügel and Samvelian (2020) take their discussion one step further and argue that Persian experiencer constructions exhibit agreement with two arguments: one MS agreement with the experiencer subject, as discussed above, and one MS agreement with the nonverbal Theme element. However, we believe that the claim concerning MS agreement with the Theme does not go through for Persian. The reason is that the verb always shows 3sg default agreement, and does not co-vary with the features of the Theme, with which it forms a complex predicate. This follows from a treatment of such predicates in Persian according to which the nonverbal element lacks the properties of an internal argument; it is a kind of bare nominal. Whether the bare nominal in complex predicates is of category N or NP (particularly in comparison with other types of bare objects) is a matter of debate (see e.g., Karimi 1997; Folli et al. 2005; Megerdooimian 2012).

This can be more easily illustrated with monadic experiencer predicates, as dyadic experiencers have the complication of not allowing the plural counterpart of the nonverbal element due to their status as complex predicates. An attempt to reflect the features of the sole argument as MP agreement on the verb results in ungrammaticality, as shown in (ib).

- (i) a. una<sub>i</sub> xast-ašun<sub>i</sub>-e.  
 3PL.pro tired=3PL.CL-be.PRS.3SG  
 ‘They are tired.’ (Karimi 2005:78,(22))  
 b. \*una<sub>i</sub> xast-ašun<sub>i</sub>-an.  
 3PL.pro tired=3PL.CL-be.PRS.PL

As such, it can be concluded that the verb does not show agreement in Experiencer constructions.



- 4444 b. **in pesar** be xāhar=eš hasudi=š mi-šod.  
 this boy to sister=3SG.CL jealousy=3SG.CL IPFV-become-PST.3SG  
 4445 ‘This boy was jealous of his sister.’ [lit. “this boy, jealousy of his sister was  
 4446 coming to him”] (Jügel and Samvelian 2020:8)
- 4447 c. **to** be in badbaxt rahm=**et** ne-mi-ā-d?  
 2SG.pro to this miserable pity=2SG.CL NEG-IPFV-come-PRS-3SG  
 4448 ‘Don’t you have pity for this poor person?’ [lit. “you, does pity for this poor  
 4449 person not come to you?”] (Jügel and Samvelian 2020:9)

4450 Jügel and Samvelian (2020) give a diachronic explanation for this construction’s prop-  
 4451 erties. In their view, the Experiencer argument was originally a hanging topic resumed by an  
 4452 enclitic pronoun (recall 5.6.2 as well). Subsequently, the hanging topic was reanalyzed as a  
 4453 subject, and the enclitic pronouns were reanalysed as agreement markers cross-referencing  
 4454 it. As one part of this argument, Jügel and Samvelian (2020) demonstrate that the hanging  
 4455 topic construction in Modern Persian differs crucially from the experiencer construction:  
 4456 the experiencer passes subjecthood diagnostics, while the topic does not.

4457 The differences between hanging topics and experiences that they point to are as fol-  
 4458 lows. First, experiencers, but not hanging topics, can follow adjuncts, (138).

- 4459 (138) a. diruz tu kelās ali<sub>1</sub> xāb=eš<sub>1</sub> bord  
 yesterday in class Ali sleep=3SG.CL take.PST.3SG  
 4460 ‘Yesterday, in the class, Ali fell asleep.’ (Sedighi 2010:114,(256))
- 4461 b. \*diruz tu kelās un zan-e<sub>1</sub> pedar=eš<sub>1</sub> umad.  
 yesterday in class that women-DEF father=1SG.CL come.PST-3SG  
 4462 Intended: ‘Yesterday, in the class, that woman, her father came.’  
 4463 (Sedighi 2010:114,(257))

4464 Second, hanging topics, unlike Experiencers, cannot occur to the right of the verb, (139).

- 4465 (139) a. az in film xoš=am<sub>1</sub> mi-ād man<sub>1</sub>.  
 from this movie pleasant=1SG.CL IPFV-come.PRS.3SG 1SG.pro  
 4466 ‘Me, I like this movie.’
- 4467 b. \*pedar=am<sub>1</sub> fardā mi-ād man<sub>1</sub>.  
 father=1SG.CL tomorrow IPFV-come.PRS.3SG 1SG.pro  
 4468 Intended: ‘My father will come tomorrow.’ (Jügel and Samvelian 2020:17)

4469 Third, experiencers, but not hanging topics, can be the antecedent of a subject-oriented  
 4470 reflexive *xod* ‘self’ (e.g., Karimi 2005; Sedighi 2010; Jügel and Samvelian 2020). Consider  
 4471 (140).

- 4472 (140) a. man<sub>1</sub> xod=am<sub>1</sub> xand=am<sub>1</sub> gereft.  
 I self=1SG.CL laugh=1SG.CL take.PST.3SG  
 4473 ‘I, myself, laughed.’

- 4474 b. \*man<sub>1</sub> xod=am pedar=am<sub>1</sub> raft.  
 I self=1SG.CL father=1SG.CL go.PST.3SG  
 4475 Intended: ‘The father of myself left.’ (Jügel and Samvelian 2020:18)
- 4476 c. man<sub>1</sub> æz xod=am<sub>1</sub> xosh=am<sub>1</sub> amad.  
 I from self=1SG.CL pleasure=1SG.CL come.PST.3SG  
 4477 ‘I like myself.’ (Sedighi 2010:114,(254))

4478 As Jügel and Samvelian (2020) discuss, all of the properties found with experiences  
 4479 above are observed for typical subjects in Persian. For example, subjects in Persian can  
 4480 follow adverbials and occur postverbally, as well as serving as the antecedent for reflexive  
 4481 pronouns, as in (141)-(142).

- 4482 (141) Ali<sub>1</sub> be Hasan<sub>2</sub> xod<sub>1/\*2</sub>-ra moarrefi kard.  
 Ali to Hasan self-RÂ introduction do.PST.3SG  
 4483 ‘Ali introduced Hasan to himself.’ (Safari 2013:fn. 1) [e.g., in a game setting]
- 4484 (142) unâ<sub>1</sub> bachche-h-ro<sub>2</sub> be xod=eshan<sub>1/\*2</sub> moarrefi kard-an.  
 they child-PL-RÂ to themselves introduction do.PST-3PL  
 4485 ‘They introduced the children to themselves.’<sup>59</sup>

4486 Other properties further corroborate the subjecthood status of the DP indexing the MP  
 4487 clitic, as opposed to bearing another grammatical role such as hanging topic or object.  
 4488 Controlled PRO, for example, is found as a subject cross-linguistically; this is illustrated  
 4489 for English in (141):

- 4490 (141) a. They<sub>i</sub> expect [PRO<sub>i</sub> to defeat you].  
 4491 b. \*They<sub>i</sub> expect [you to defeat PRO<sub>i</sub>].  
 4492 c. cf. They<sub>i</sub> expect [PRO<sub>i</sub> to be defeated by you].

4493 In Persian experiencers can also be controlled PRO, as shown in (142), just like other  
 4494 subjects, (143).

- 4495 (142) soruš<sub>1</sub> ne-mi-xāst [PRO<sub>1</sub> xāb=eš be-bar-e].  
 Soroosh NEG=want.PST.3SG sleep=3SG.CL SBJV-carry.PRS-3SG  
 4496 ‘Soroosh didn’t want to fall asleep.’ (adapted from Sedighi 2010:116,(261a))
- 4497 (143) Kimea<sub>1</sub> tasmim gereft [PRO<sub>1</sub> be-r-e].  
 Kimea decision took.3SG SBJV-go-3SG  
 4498 ‘Kimea decided to go.’ (adapted from Karimi 2008:178,(4))

<sup>59</sup>Compare this with the reciprocal:

- (i) unâ<sub>1</sub> bachche-h-ro<sub>2</sub> be hamdige<sub>1/2</sub> moarrefi kard-an.  
 they child-PL-RÂ to each.other introduction do.PST-3PL  
 ‘They introduced the children to each other.’ (Karimi 2005:174,(25))

4499 Furthermore, experiencers pass the conjunction reduction test (cf. [Zaenen et al. 1985](#),  
 4500 discussed in 3.3), which allows the subject of a coordinated clause to be deleted under  
 4501 identity with the subject of a preceding clause. Experiencers can be omitted in case of clause  
 4502 coordination, if they are coreferent with the subject of the first clause. Consider (144).

- 4503 (144) ki-ā<sub>1</sub> kot na-pušid-an<sub>1</sub> va sard=ešun<sub>1</sub> šod?  
 who-PL coat NEG-wear.PST-3PL and cold=3PL.CL become.PST.3SG  
 4504 ‘Who didn’t wear warm clothes and got cold?’ ([Sedighi 2010:115,\(258\)](#))

4505 In addition to arguing that the experiencer is structurally the same as a typical sub-  
 4506 ject, [Jügel and Samvelian \(2020\)](#) propose that the MP clitic indexing the experiencer DP  
 4507 is produced by MS agreement, not MS Clitic Movement. Distributionally, the MP clitic  
 4508 must always cooccur with the subject. The MP clitic shows other MS-agreement proper-  
 4509 ties. For instance, it can refer to an indefinite or negative polarity noun phrase, as in (145b).  
 4510 On the other hand, clitic pronouns which resume a (hanging) topic can only refer to defi-  
 4511 nite/anaphoric noun phrases.

- 4512 (145) a. to be in badbaxt rahm=\*(et) ne-mi-ā-d?  
 2SG.pro to this miserable pity=2SG.CL NEG-IPFV-come-PRS-3SG  
 4513 ‘Don’t you have pity for this poor person?’  
 4514 b. hičkas<sub>1</sub> xanda=š<sub>1</sub> na-gereft.  
 nobody laugh=3SG.CL NEG-take.PST.3SG  
 4515 ‘Nobody laughed.’

4516 Moreover, the MP clitic cannot alternate with a full pronoun in the Ezafe construction,  
 4517 as in (146a). In their genuine pronominal use, on the other hand, clitics can alternate with  
 4518 a full pronoun, as shown in (146b), where the weak pronominal clitic is substituted by  
 4519 an independent pronoun, usually when the possessor is focused (similar to the patterns in  
 4520 Kurdish).

- 4521 (146) a. \*xande=ye to gereft.  
 laughter=EZ 2SG.pro take.PST.3SG  
 4522 Intended: ‘You began to laugh.’  
 4523 b. xande=ye to zibā=st.  
 laughter=EZ 2SG.pro beautiful=be.PRS.3SG  
 4524 ‘Your laughter is beautiful.’ ([Jügel and Samvelian 2020:22a-b](#))

4525 These properties confirm that the  $\varphi$  element indexing Experiencer subjects is MS Agree-  
 4526 ment realized as an MP Clitic. It is thus unlike other cases of MS Agreement in Persian,  
 4527 which are realized as MP Agreement morphemes on Tense. As an MP Clitic, the  $\varphi$  ele-  
 4528 ment realizing the experiencer’s features and exhibits a second-position clitic effect. In all  
 4529 these respects, it patterns like the indexing of the Ergative argument in the Sorani Kurdish  
 4530 perfective. Although this behavior might look unusual in the context of the rest of Modern

4531 Persian, which is a Nominative-Accusative language, it is unsurprising once the historical  
 4532 background and the syntax of other Iranian languages are taken into account.

4533 Turning now to the implementation of this analysis, Jügel and Samvelian’s primary  
 4534 conclusions can be interpreted on our account as indicating that there are two functional  
 4535 heads (T and  $\emptyset$ ) that function as MS Agreement probes in Persian. In the context of the  
 4536 present work, it leads to the conclusion that Persian has at least three cases: Nominative  
 4537 and Accusative, and, in addition, a case that we label ‘Experiencer’ which is the topic  
 4538 of this section:<sup>60</sup> Note that although we label it ‘Experiencer’, Jügel and Samvelian draw  
 4539 an explicit parallelism between these subjects and Ergative subjects, therefore it is very  
 4540 plausible to call it ‘Ergative’ as well, in line with the inherent ergative of non-canonical  
 4541 subject constructions in section 5.2.

4542 (147) Persian cases

		Nominative	Accusative	Experiencer/Ergative
4543	subject	+	-	+
	oblique	-	+	+

4544 The behavior of typical Nominative/Accusative clauses indicates that indexation operates  
 4545 in the following way:

- 4546 (148) a. T agrees with the highest [-obl] DP.  
 4547 b.  $\emptyset$  attracts (Clitic Moves) [+obl] clitic pronouns.

4548 The restriction to [-obl] in (148a) takes into account clauses with Experiencer subjects,  
 4549 which T does not agree with. As detailed above, in these clauses the head  $\emptyset$  agrees with the  
 4550 Experiencer. That is:

4551 (149)  $\emptyset$  agrees with [+subj,+obl] arguments.

4552 The identical realization of the  $\varphi$  bundles that bear [+obl] can then be analyzed along  
 4553 the lines of Sorani, where Ergative and Accusative are realized in the same form (recall 4.7  
 4554 above).<sup>61</sup>

<sup>60</sup>As noted in fn. 57, the morpheme *-rā* in Persian, which is typically associated with differential object marking, has also been analyzed as the realization of accusative case (Haig 2008; Karimi and Smith 2020). For the sake of simplicity we put DOM (and the genitive marking on possessors) to the side.

<sup>61</sup>Another respect in which Persian resembles Sorani is the realization of weak pronominal clitics. In a simple transitive clause, these appear on the verb, (i).

- (i) (Context: I said there was a sparrow on that wire)

hālā ne-mi-bin-am=**aš**.  
 now NEG-IPFV-see.PRS-1SG=3SG.CL

‘Now I don’t see it.’ (Modern Persian, Roberts 2009: 256, cited in Haig 2018:16)

It turns out that the same clitic exhibits a property of placement that is reminiscent of second position clitics

4555        There are some further aspects of the analysis in (147) that could be examined in greater  
4556 detail. For example, it could be asked how it relates to the idea that there are Dative subjects  
4557 in many languages. As far as Modern Persian goes, it is interesting to note that both DOs  
4558 and IOs can be realized as MP clitics that are identical to those that index Experiencers.  
4559 As far as we have been able to determine, it is possible to hold that both of these types of  
4560 arguments are assigned [-subj,+obl], and are thus treated the same by MS Clitic movement.  
4561        It remains to be seen if this aspect of the analysis will hold when other aspects of Persian  
4562 are examined in detail. For present purposes, what bears emphasizing is that case must enter  
4563 the picture in some form. Having statements along the lines of ‘T Agrees with the highest  
4564 DP argument’ makes incorrect predictions for Experiencer constructions. To distinguish  
4565 the two different types of subject in the language, reference to the [ $\pm$ oblique] feature in MS  
4566 Agreement probes is needed.

---

observed in Kurdish. For example, in a construction with complex predicate, it attaches onto the nonverbal part, as in (ii).

- (ii) man davat=**esh**            kard-am.  
I    invitation=3SG.CL did-1 SG  
‘I invited him/her.’

Interestingly, negation does not serve as a licit host in Persian, as seen in (i). This is in fact a property [Mohammadirad \(2020b\)](#) notes for some Kurdish varieties that have mobile clitics. These observations suggest an interesting comparative project concerning the placement of clitics in different Iranian languages.

4569 In this chapter we examine some of the theoretical implications of the analyses developed  
4570 earlier in this book. The larger points to be addressed fall under three headings; within each  
4571 of these, we will be reviewing our main proposals, and considering theoretical alternatives  
4572 to compare them with.

4573 **CASE FEATURES** In 6.1 we review the way in which case is represented on our approach.  
4574 We argued both for Sorani and in other case studies why case labels like *Nominative*, *Erga-*  
4575 *tive*, etc. should be taken as short hand for sets of binary features. One question to be  
4576 addressed concerns how this approach to case relates to those appealing to hierarchies of  
4577 the type *unmarked* > *dependent* > *lexical*, which play a prominent role in the literature. We  
4578 examine this question in the light of the Sorani system, and show how our treatment does  
4579 the work attributed to such hierarchies. We consider in addition a type of case representa-  
4580 tion that differs substantially from ours in taking cases to be in a markedness-determined  
4581 containment relation. Finally, we look at two aspects of our analysis of Sorani that have  
4582 implications for how Ergative case is analyzed: first, the idea that Non-Canonical Subject  
4583 constructions have Ergative Subjects; and second, the idea that IO passives in Sorani have  
4584 derived Ergative Subjects.

4585 **CASE TARGETING** It is crucial to our approach that MS operations target specific case  
4586 features. We applied this kind of analysis to Sorani and several other languages, and showed  
4587 how it produces the correct results. In 6.2 we examine an alternative to case targeting. As we  
4588 noted at various points earlier in this chapter, some systems show clearly that MS operations  
4589 are constrained by locality, so that they must target the closest argument of the correct type.  
4590 The question addressed in 6.2 is whether it is possible to analyze Sorani with **only** a locality-  
4591 based view of MS Agreement and Clitic Movement: what we refer to as a ‘height-only’  
4592 approach. We demonstrate that this kind of analysis is unable to make correct predictions  
4593 for the Sorani system, and that attempts to fix it amount to introducing case targeting in  
4594 some form. To drive these points home, we make the same points in an examination of  
4595 certain varieties of Neo-Aramaic, some of which have been analyzed in the literature with  
4596 a kind of height-only approach.

4597 **MS/MP MISMATCHES** Our analysis of Sorani posits two mismatches between MS oper-  
4598 ations and their MP realization. The first is that MS Clitic Movement of DOs and IOs  
4599 produces MP Agreement morphemes. The second is that MS Agreement with Ergative sub-  
4600 jects is realized with an MP clitic. Mismatches of this type are not expected given certain

4601 theories of MS/MP relations, and therefore warrant careful evaluation. In 6.3 we provide  
4602 this by looking at ways of removing these two mismatches from the system. The first (di-  
4603 rected at the first mismatch) holds that the MP Agreement is the result of MS Agreement,  
4604 which is restricted so as to apply only to null pronominals. The second, addressing Ergative  
4605 Subjects, holds that the MP clitic found in this situation is the result of MS Clitic Doubling,  
4606 not MS Agreement. We demonstrate that both of these alternatives have serious difficulties  
4607 in accounting for the facts of Sorani, and wind up begin unable to account straightfor-  
4608 wardly for a number of generalizations. In the concluding part of this section we situate  
4609 our view of MS/MP relations against the background provided by by morphosyntactic and  
4610 morphophonological approaches that argue for the same conclusion.

4611 Following these specific points of discussion, section 6.4 offers a general conclusion to this  
4612 work.

## 4613 **6.1 Case features**

4614 The starting point of our general discussion looks at various aspects of case features. First  
4615 in 6.1.1 we will review the way in which these function in our analysis of Sorani. The point  
4616 of this review is to extract key points– things that are required for the analysis to work  
4617 properly– so that comparisons can be made with alternatives that differ in essential ways.

4618 The specific comparisons that we make are developed in 6.1.2. We look in particular at  
4619 two different ways in which case has been discussed in the literature. The first involves an  
4620 implicational hierarchy, of a type that figures prominently in Bobaljik (2008) (also 2017).  
4621 The general question that arises here is what kind of work is done by such hierarchies, and  
4622 how this might relate to the formal system that we have developed. The second comparison  
4623 is with theories that represent case in *containment* relations: on this view, case features  
4624 are unary, such that more marked cases contain less marked ones as subparts. This type of  
4625 representation leads to problems with attested types of case targeting.

4626 Finally, 6.1.3 turns to the question of case assignment. As we have stressed throughout  
4627 the book, our goal is to make an argument about how case features relate to indexation  
4628 operations, and this is compatible with several different views of how case is assigned. For  
4629 this reason, we do not attempt to provide a fleshed out theory of how this works. At the  
4630 same time, several aspects of the analyses that we propose have implications for theories of  
4631 case assignment. Section 6.1.3 brings these together and provides a foundation for future  
4632 work linking our proposals with this aspect of the theory.

### 4633 **6.1.1 Sorani in review: The nature and role of case features**

4634 The primary line of argument in Chapters 4 and 5 is that Sorani indexation requires an  
4635 analysis in which probes are specified to target specific case features. We analyzed Stan-  
4636 dard Sorani Kurdish with four cases, defined by the two binary features [ $\pm$ subject] and

4637 [ $\pm$ oblique] in the way shown in (1):<sup>1</sup>

4638 (1) Sorani cases

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’
4639 <b>subj(ect)</b>	+	+	-	-
<b>obl(ique)</b>	-	+	+	-

4640 The assignment of these case features is sensitive to clause type. In Sorani, this amounts  
4641 to the presence or absence of the head Asp[+perf], which defines the alignment split.  
4642 Case assignment produces Nominative/Accusative transitives when it is absent, and Erga-  
4643 tive/Objective transitives when it is present.

4644 Sequentially, the view we have argued for involves the following stages:

4645 (2) Stages

4646 Formation of basic clause type > Case assignment > MS Agreement/Clitic Move-  
4647 ment > PF realization of  $\varphi$  bundles.

4648 On this approach, the assignment of case features is syntactic, and must precede MS  
4649 Agree and Clitic Movement operations. It is thus incompatible with theories in which the  
4650 assignment of case is contingent on, or caused by,  $\phi$ -agreement (as in Chomsky 2000, 2001).  
4651 Taken as a whole, the present work thus strengthens the line of argument holding that MS  
4652 Agreement is driven by case features; cf. Bobaljik (2008) and Preminger (2009:ch. 8.3.3)  
4653 (although the former has a different view of where in the grammar agreement occurs).

4654 As we saw in the preceding chapters, each of the probes on the heads T and  $\mathcal{O}$  is speci-  
4655 fied to MS Agree or Clitic Move one type of argument:

4656 (3) Properties of heads

4657 a.	T	{	AGREES with [+subj, -obl] arguments	(Target: Nominative)
			MOVES [-subj, -obl] clitics	(Target: Objective)
4658 b.	$\mathcal{O}$	{	AGREES with [+subj, +obl] arguments	(Target: Ergative)
			MOVES [-subj, +obl] clitics	(Target: Accusative)

---

<sup>1</sup>The view in (1) contrasts with approaches like e.g., Kornfilt and Preminger 2015, where e.g. *Nominative* is taken to be the wholesale absence of case, as such it is simply the morphological spell-out of a DP whose case features are not valued in the course of the derivation. In this approach, “cases like nominative and absolutive (and within the DP, genitive) are simply the morphological form afforded to noun phrases whose case features have not been valued in the course of the derivation” (Kornfilt and Preminger 2015:5). This approach is not compatible with the overall approach we take for cases; as it relies on surface exponence of cases, as such it runs the risk of collapsing or overlooking distinct syntactic cases. For example, our analysis shows that Nominative and Ergative in Sorani form a natural class in being MS Agreement targets - which is also needed for Nepali (see Chapter 2). It is not clear to us how to reconcile these kinds of natural class behavior with the idea that Nominative is the absence of case value assignment. See also Legate 2008, which argues that the so-called “Absolutive” in fact corresponds to distinct cases: Nominative case on an intransitive subject, but Accusative case on a transitive object.



4659 Two aspects of these probes call for further comment; the first is that they are *opportu-*  
4660 *nistic*; the second is that they are *selective*.<sup>2</sup>

4661 On the first point, we have hypothesized that T and  $\mathcal{O}$  have the same probe structure  
4662 in every type of Sorani clause. It is thus not the case that the alignment split results from  
4663 perfective and imperfective clauses having different probe structures (see 6.2 for a more  
4664 detailed discussion). Rather, it is case assignment that is sensitive to Aspect; probes behave  
4665 as they do irrespective of this. Put differently, the probes seek a specific type of argument,  
4666 and are not sensitive to the type of clause they are in. If they find an appropriate goal,  
4667 an MS operation applies; if not, nothing happens. This is what we mean by saying they  
4668 apply opportunistically. An implication of this view is that there are no consequences of  
4669 ‘probe failure’ (cf. Preminger 2014): rather, the MS operation applies when its structural  
4670 description is met; if it is not, nothing happens.<sup>3</sup>

4671 The selectivity of these probes— i.e. the fact that each one targets one unique case— is a  
4672 particular property of Sorani. As we saw in the analysis of different Indo-Aryan languages  
4673 in Chapter 2, probes may also be specified for a single case feature, such that they are in  
4674 principle capable of interacting with more than one type of case. Nepali agreement probes,  
4675 for example, target [+subj] arguments, with the result that both Nominative ([+subj,-obl])  
4676 and Ergative ([+subj,+obl]) arguments are agreed with in that language.

4677 While Sorani probes must be selective in the way that is shown in (3), there is neverthe-  
4678 less evidence for case decomposition from other parts of the grammar. In particular, even  
4679 though each of the four cases in Sorani shows a distinct indexation behavior, there are syn-  
4680 cretisms that result in two different types of  $\varphi$  realization: what we call *MP Clitics* versus  
4681 *MP Agreement*. The syncretisms associated with each of these are defined by the feature  
4682 [ $\pm$ oblique], as stated in (4):

4683 (4) Sorani syncretisms

- |      |  |                              |
|------|--|------------------------------|
| 4684 | a. [+obl] $\varphi$ bundles are MP Clitics   | <i>Ergative, Accusative</i>  |
| 4685 | b. [-obl] $\varphi$ bundles are MP Agreement | <i>Nominative, Objective</i> |

4686 The key idea that we will explore further in the pages to come is Case Targeting. For the  
4687 immediate purposes of this section, the noteworthy point is that our use of this idea requires  
4688 a certain type of representation for case features— one that allows for there to be different  
4689 natural classes for different operations. With this in mind, we will look at some alternative

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<sup>2</sup>A further aspect of the Sorani system that stands out is what could be called *Probe Consistency*: each of the probes on T target [-obl] arguments, while each of  $\mathcal{O}$ 's probes targets [+obl]. This does not appear to fall out of any theory that we are aware of; which is to say, it would not surprise us to find a language with ‘inconsistent’ probes, with e.g. T having an Agreement probe targeting [-obl] subjects, and another that Clitic Moves [+obl] clitics. (It is not difficult to think of many familiar languages as instantiating this latter possibility).

In our view, the consistency of the Sorani pattern reflects the origins of the alignment split in Iranian, where the original Indo-European pattern (T agreeing with subjects) was supplanted in the perfective in a way that is tied closely to oblique clitics that appeared near the left edge of the clause; the latter eventually came to be reanalyzed in some languages as agreement with oblique subjects. See in particular Haig (2008) and Jügel and Samvelian (2020) for insightful discussion.

<sup>3</sup>So, for instance, on Preminger's (2014) account, failure produces default agreement morphology. In Sorani conversely there are no consequences (syntactic or morphological) of failure.

4690 case representations in the following section. This discussion will also pave the way for  
4691 6.1.3, where we will examine some of the implications of our approach for theories of how  
4692 case is assigned.

### 4693 **6.1.2 Case representation**

4694 The approach to case features that we have developed is ‘flat’: features are cross-classified,  
4695 but they do not stand in any sort of hierarchical arrangement. Although we have not spoken  
4696 of it specifically in these terms above, this part of the approach is what allows for indexation  
4697 operations to make reference to natural class behaviors that partition cases differently within  
4698 the same language.

4699 A few examples from Sorani provide initial illustrations. Consider, for example, the idea  
4700 that both Nominative and Ergative arguments are targets of MS Agreement. On our account  
4701 this is encoded in the feature [+subj], which these two cases share. From the perspective of  
4702 the [ $\pm$ oblique] feature, though, these cases take opposing values. On our analysis, this is  
4703 responsible for the forms that their  $\varphi$  indexers take: MP clitics for [+oblique] Ergatives, and  
4704 MP Agreement for [-oblique] Nominatives. The same kind of ‘dual behavior’ can be seen  
4705 in the Accusative and Objective cases. These share the feature [-subj], which unifies the  
4706 behavior of pronouns with these cases as targets of MS clitic movement. At the same time,  
4707 Accusative and Objective differ with respect to [ $\pm$ oblique], in a way that accounts for why  
4708 their MP forms are identical to those found with the Ergative and Nominative respectively.

4709 This way of representing case features differs from some alternatives that have been  
4710 discussed in the literature; in the remainder of this section we will examine two.

4711 **Implicational hierarchies** One prima facie distinct way of talking about case appeals to  
4712 *case hierarchies*, of a type that was first mentioned in our discussion of indexation in Indo-  
4713 Aryan in Chapter 2. There we described the use of a case hierarchy that Bobaljik (2008)  
4714 makes use of in his treatment of agreement. The hierarchy is implicational: agreement with  
4715 a case-type implies agreement with the type(s) to its left:

4716 (5) Implicational hierarchy

4717 Unmarked case > Dependent case > Lexical case

4718 For example, in Hindi agreement would target only the highest NP with unmarked case,  
4719 while NPs bearing morphological cases to further right side of the hierarchy are invisible  
4720 for the agreement operation. In this implicational hierarchy, parametric variation between  
4721 languages could allow more cases in the hierarchy to be accessible for agreement. For ex-  
4722 ample, Nepali would differ from Hindi-Urdu in including dependent case (Ergative) among  
4723 the accessible cases. Under (5), this entails that unmarked cases (there, in Nepali, Nomina-  
4724 tive) must also be accessible.

4725 On the face of it, the hierarchical arrangement of cases is incompatible with the type of  
4726 representation we have posited. However, this appearance might very well be deceiving. It  
4727 is important to observe that the labels in (5) are hybrid in nature: they pick out both specific  
4728 cases (e.g. Ergative and Accusative are both Dependent, and hence must be represented

4729 similarly), **and** ways in which cases are assigned (e.g. Dependent cases are by hypothesis  
4730 assigned only under specific structural conditions). Crucially, there is nothing on our view  
4731 which prevents case assignment from operating in ways that produces the effects of an  
4732 implicational hierarchy through the manner in which case features are assigned. However,  
4733 it is crucial that this question be addressed at the correct grain: in terms of decomposed  
4734 cases, not case labels.

4735 To illustrate, consider the feature [ $\pm$ oblique] in our analysis, and how it relates to (5).  
4736 For our analysis to work, [+oblique] must be assigned to Ergative and Accusative argu-  
4737 ments: both Dependent cases in (5). This makes them marked relative to Nominative and  
4738 Objective, which are assigned [-oblique]. It might very well be an important desideratum  
4739 for the theory of case assignment to encode this kind of effect (see 6.1.3) in a transparent  
4740 way.

4741 How does this relate to indexation, and the work that the hierarchy in (5) is supposed  
4742 to do? It looks as if our approach is more permissive than (5) in terms of what it allows.  
4743 It would be entirely possible, for example, for an MS operation to be specified for [+obl]  
4744 alone:

4745 (6) MS operation X targets [+obl]

4746 This would target e.g. Ergatives and Accusatives but not Nominatives or Objectives, some-  
4747 thing that is not expected if (5) holds.

4748 As far as we can tell there are reasons for allowing the less restrictive option. In Sorani,  
4749 our analysis holds that there is a probe on  $\mathcal{O}$  that targets [+subj,+obl] Ergatives. Crucially,  
4750 this probe does not find Nominative (or Objective) arguments. This is the correct result for  
4751 Sorani, but it is unexpected if (5) regulated how case-targeting probes function.

4752 It turns out that this is one manifestation of a larger set of questions about what precisely  
4753 hierarchies like (5) do (and how they are supposed to do it). Clearly something beyond (5)  
4754 is required for the correct analysis of indexation patterns. In addition to specifying why  
4755 less marked cases are not always targets of a probe, (5) also has nothing to say about why  
4756 Accusative arguments— also by hypothesis Dependent— are not targets of MS Agreement.<sup>4</sup>

4757 In any event, the kind of question that we are left with concerns what kinds of empirical  
4758 generalizations can be identified in connection with (5). One could ask, for example, if our  
4759 feature system leads us to believe that there will be probes that e.g. target unmarked and  
4760 lexical cases, to the exclusion of dependent case. At present it simply is not clear to us if  
4761 this is expected or not— it depends a great deal on the nature of the feature system; which  
4762 in turn requires an explicit theory of case assignment. By this we mean that a notion like  
4763 *dependent* is not a primitive in our approach. Rather, the question to ask is what this means  
4764 at the level of decomposed case features and their values— and there exists no theory of that  
4765 type at present.

4766 On the theme of what is possible under Case Targeting, some natural restrictions suggest

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<sup>4</sup>It could be objected at this point that hierarchies like (5) are supposed to define how agreement works in a language considered as a whole, not at the level of what a particular probe does. If this is how (5) is to be interpreted, then it is simply operating at a different level of analysis than our proposals are.

4767 themselves as possibilities to be explored. Perhaps the most straightforward one requires  
4768 probes to target feature-defined classes in a way that is not disjunctive. That is:

4769 (7) NO DISJUNCTIVE TARGETING: Probes may target a specific feature and its value;  
4770 not a disjunctive list of those.

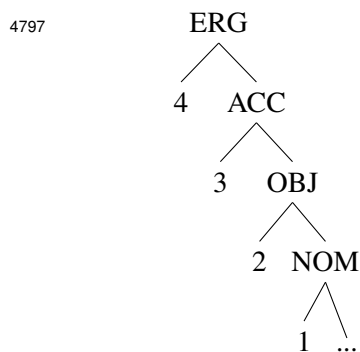
4771 This restricts probes to targeting e.g. [+subj], or [-subj,+obl] and so on. It precludes them  
4772 from targeting distinct combinations, so that a single probe could not be specified to target  
4773 e.g. both [+subj,+obl] Ergatives and [-subj,+obl] Accusatives. We believe that investigating  
4774 this and related ways of putting limits on Case Targeting will be valuable continuations of  
4775 the work presented here.

4776 For our account, the point about the need to augment (5) recapitulates why two features  
4777 are needed in order to account for the Sorani indexation system. But they also serve to il-  
4778 lustrate the kinds of questions that arise with respect to implicational hierarchies like (5). In  
4779 short form, we believe that such hierarchies provide valuable insight into how case assign-  
4780 ment functions, in ways that could in principle relate to markedness. However, we believe  
4781 in addition that progress on this type of question requires a theory of the type we have ad-  
4782 vanced in this book: one in which case labels are decomposed into more basic features. For  
4783 the reasons we have outlined above, it is only when notions like *unmarked*, *dependent*, and  
4784 *lexical case* are broken down into more primitive features that questions of the type raised  
4785 above can be investigated in detail.

4786 **Case containment hierarchies** As we just saw, case hierarchies like (5) require further  
4787 elaboration in order to be compared with the treatment of case features that we have pro-  
4788 posed. In the end the further investigation of features might result in something quite similar  
4789 to what we have worked with; it depends a great deal on how case assignment works.

4790 By way of contrast, an alternative that takes a directly opposing stance to ours treats  
4791 cases as arranged hierarchically, such that more marked cases contain less marked ones.  
4792 An approach of this type is employed in [Caha 2009](#) and related work, where the goal is to  
4793 use the hierarchy to account for syncretism in morphological realization. For our purposes,  
4794 and looking at the cases that we posited for Sorani, this kind of *case containment* approach  
4795 might employ the hierarchy in (8):

4796 (8) Hierarchical representation of cases



4798 There are, of course, more possible ways of arranging for these case features. The particular  
4799 choice in (8) makes some assumptions about markedness which could be done otherwise;  
4800 it basically takes those cases that are typically regarded as oblique as more marked than  
4801 direct cases are. We do not have a particular interest in the claim that there is only one way  
4802 of arranging features along these lines; our main points can be established with reference to  
4803 the general idea behind (8).<sup>5</sup>

4804 Details of containment aside, the matter to focus on is how case targeting MS operations  
4805 would work in a system that treats cases in the manner shown in (8). To illustrate, consider  
4806 MS Agreement in Sorani, where T and *ℓ* have probes specified to target Nominative and  
4807 Ergative arguments respectively. With Nominatives, things go as expected: T's probe locates  
4808 a Subject, and receives its features. With Ergatives, though, matters are more complex. The  
4809 probe on *ℓ* should function as desired, and index the Ergative Subject. But because Ergative  
4810 necessarily contains Nominative, the probe on T should also succeed in agreeing with that  
4811 same argument. It is thus expected that both *ℓ* and T will agree with Ergative Subjects,  
4812 contrary to fact.

4813 The problem is due to the idea that cases contain others. This makes the features of the  
4814 contained (less marked) cases active even when a clause does not contain an argument with  
4815 that particular case. Thinking about things this way leads to a possible way of fixing the  
4816 analysis based on (8), which is stated in (9):

4817 (9) Probes can see only the highest case feature.

4818 This restriction takes care of the problem that we identified with Sorani. In a clause with  
4819 Ergative Subjects, only *ℓ* is expected to agree; since the probe on T is looking for Nomi-  
4820 native, which is hierarchically below Ergative, it will not agree.

4821 Notably, this fix works for Sorani only because the probe structure of that language is  
4822 very case-specific: each of the MS Probes is specified to target a single case. Other lan-  
4823 guages work differently, such that there are multiple cases that a particular probe might  
4824 target. As we saw in Chapter 2, for example, arguments in Nepali are agreed with both  
4825 when they are Nominative and when they are Ergative. With case features of the type we  
4826 have employed, this is stated in terms of a class defined by [+subj]:

4827 (10) T-probe in Nepali: Agree with the highest [+subj] argument.

4828 The same kind of analysis cannot be made in a theory with (8) and the further assumption  
4829 in (9). Presumably the probing head(s) would need to be specified with two distinct probes;  
4830 one seeking an Ergative argument, and one seeking Nominative.

4831 (11) Probes (hypothetical treatment of Nepali)

4832 a. Probe 1: MS Agreement with Nominative.

4833 b. Probe 2: MS Agreement with Ergative.

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<sup>5</sup>For discussion of some specific proposals involving Ergative and Absolutive, see Zompì 2019 and refer-  
ences cited there.

4834 This is certainly a possible move— after all, we have been making the point throughout  
4835 this work that Case Targeting is required in some form. However, this kind of analysis  
4836 potentially obscures certain types of generalizations that our representations are able to  
4837 account for. Ported back into Sorani, there would be distinct probes on T and  $\mathcal{O}$ , as there  
4838 are on our analysis:

- 4839 (12) a. Probe 1 (on T): Agree with Nominative.  
4840 b. Probe 2 (on  $\mathcal{O}$ ): Agree with Ergative

4841 This specification produces the correct results for MS Agreement. But it fails to correlate  
4842 behaviors in the way that the [+subj] feature does— i.e., the fact that MS Agreement in Sorani  
4843 targets only the arguments that have other subject properties, and that are subject to *pro*-  
4844 drop, is an accident on this approach. Moreover, one of the key tenets of theories adopting  
4845 representations like (8)— that shared behaviors require contiguity in the case hierarchy—  
4846 must be abandoned, since Accusatives and Objectives are not agreement targets.

4847 The crux of the matter boils down to how to account for situations in which distinct  
4848 cases behave similar for some process or processes. On our account, this work is done with  
4849 features of the type [ $\pm$ subj] and [ $\pm$ obj]; and, as we have shown throughout our case studies,  
4850 the same feature specifications are employed in both syntax and morphological realization,  
4851 even if there are sometimes mismatches between these two parts of the grammar. Though  
4852 ultimately it might be possible to recast these in a worked out theory of case assignment,  
4853 we speculate that the kind of work done by binary features will play a central role in any  
4854 account that takes seriously both the morphosyntax of case and its realization.

4855 To be fair, containment-based accounts like the one in (8) have (to our knowledge) only  
4856 been explored in the domain of realization (the theory of syncretism in particular). Be that  
4857 as it may, the way in which they represent cases provides a suitable comparison for the  
4858 morphosyntactic theory that we have developed here; and on the basis of what we have  
4859 presented above, it appears that such theories have difficulties on this side of the equation.

### 4860 **6.1.3 Implications for case assignment**

4861 Our goal in this book has been to show how MS operations target case features— in a way  
4862 that is relatively neutral with respect to how case is assigned. At various points in the course  
4863 of doing this, however, it becomes quite clear that the kind of analyses we have presented  
4864 have certain implications for how case assignment works. In this section we will look in  
4865 greater detail at two particular points of interest in this area. Both of these involve how  
4866 Ergative case functions in our analysis of Sorani, and connect with case studies that are  
4867 pursued in depth in Chapter 5.

4868 The first concerns Non Canonical Subjects (NCSs). In Chapter 5 we took these to be  
4869 Subjects that are assigned Ergative case by virtue of being introduced in the specifier of an  
4870 applicative (Voice) head. As such, they show Ergative case in both aspects. NCSs in many  
4871 languages have been studied under the label of *Dative Subjects*. For this reason, we consider  
4872 an alternative treatment of Sorani in which these arguments are assigned Dative, and show  
4873 why we believe the Ergative analysis is superior. The general question that this discussion

4874 points to concerns how to distinguish different cases in an approach like the one that we  
4875 have employed.

4876 The second discussion point focuses on the idea that there are derived Ergative Subjects  
4877 in Sorani. We argued for this point in Chapter 5, in our analysis of Indirect Object passives.  
4878 The question of derived Ergatives connects with a substantial literature that compares the  
4879 predictions of different theories of this case: inherent versus dependent case approaches in  
4880 particular. We demonstrate here that while IO passives appear to provide evidence against  
4881 the former type of view, the broader picture that emerges from Sorani is that Ergative can  
4882 be assigned in more than one way– even within a single language.

4883 **Inherent Ergative Subjects** In chapter 5, we investigated what are referred to as *non-*  
4884 *canonical subject constructions* (NCS), which were unique in having Oblique subjects in  
4885 both the perfective and imperfective aspects. We repeat below the two main types of con-  
4886 structions, the *want*-type (13) and the *clausal possession/have*-type, (14):

4887 (13) a. min kitêb=**im** de-wê.  
1SG.pro book=1SG.CL IND-want.PRS

4888 ‘I want book/books.’

4889 b. min kitêb=**im** wîst.  
1SG.pro book=1SG.CL want.PST

4890 ‘I wanted book/books.’

4891 (14) a. ême kitêb=**man** he-(y)e.  
1PL.pro book=1PL.CL exist-COP.PRS

4892 ‘We have books.’

4893 b. ême qalam-an=**man** ha-bû.  
1PL.pro pen-PL=1PL.CL exist-COP.PST

4894 ‘We had some pens.’

4895 We argued that in both of these structures the argument indexed with MP clitic bears  
4896 inherent Ergative case (modulo differences regarding the status of the other argument: the  
4897 object is Objective in *want*-type, and the possessum is Nominative in *have*-type).<sup>6</sup> This  
4898 conclusion is based on indexation behavior; in the system of cases we posit for Sorani  
4899 repeated in (15), an argument that is the target of MS Agreement and indexed by an MP  
4900 clitic is Ergative:<sup>7</sup>

4901 (15) Sorani cases

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<sup>6</sup>Recall that the inherent case account is clearest for *want*. For clausal possession, we hypothesized in 5.4 that there might be a connection with IO passives, where we believe that there are derived Ergative Subjects.

<sup>7</sup>Recall also that Persian also has the non-canonical subject construction, called *experiencer* construction by Jügel and Samvelian (2020), who show that the experiencers pattern like ergative subjects in Iranian languages with ergative-alignment. Therefore, we believe it is plausible to assume that the experiencer also bear inherent Ergative in Persian as well. See sect. 5.6.3 for more discussion.

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’	
4902	<b>subject</b>	+	+	-	-
4903	<b>oblique</b>	-	+	+	-

4904 As already noted in Chapter 5, the study of NCS constructions in many language fam-  
 4905 ilies is often framed as the study of *Dative* subjects. This raises the question of whether  
 4906 we should consider such an analysis for Sorani. We will address this question in two steps.  
 4907 First, we will show that while it is certainly possible to add an additional feature to the  
 4908 Sorani case system to define Dative case, there is little motivation for this move when the  
 4909 larger Iranian context is considered. When this latter point is paired with the absence of  
 4910 evidence for a distinct case internally to Sorani, it leads to the conclusion that the Ergative  
 4911 analysis is to be preferred.

4912 In the abstract, what is needed for the introduction of Dative is an additional feature,  
 4913 given as [ $\alpha$ ] in (16):

4914 (16) Extension of case feature system

	‘Nominative’	‘Ergative’	‘Accusative’	‘Objective’	‘Dative’	
4915	<b>subj(ect)</b>	+	+	-	-	+
	<b>obl(ique)</b>	-	+	+	-	+
	$\alpha$	+	+			-

4916 The idea here is to use [ $\alpha$ ] to (i) introduce a further type of [+subj,+obl] case, that is (ii)  
 4917 distinct from the Ergative.

4918 Adding features in this way is always a possibility. On the face of it, there is little to  
 4919 motivate it given the specifics of the analysis that we developed in earlier chapters. In par-  
 4920 ticular, there is first, no unique realization of this case morphologically, something which  
 4921 could surely motivate an additional feature; and second, the arguments in question do not  
 4922 display a unique indexation behavior. Within the boundaries that we have set for our anal-  
 4923 ysis, this means that if the arguments in question wind up with [+subj,+obl], the correct  
 4924 results are produced, and there is no reason to modify the case system that we have been  
 4925 operating with.

4926 The lack of motivation for positing additional features for Sorani becomes clearer when  
 4927 it is compared with other Iranian languages; we focus on Pamiri languages, which are spo-  
 4928 ken in the Pamirs region of Tajikistan, and parts of neighboring countries such as Afghanistan.  
 4929 Our illustration will proceed in a few steps. First, we will show that when there is a clearly  
 4930 Dative argument in an NCS-like construction, it fails subjecthood tests, and does not enter  
 4931 the indexation system. On the flip side of this, there are languages in which the situation  
 4932 is much like that in Sorani: the NCS behaves like a typical subject, and agrees in the way  
 4933 typical of Ergative arguments.

4934 The first part of this— an NCS that does not behave like a typical Subject— is found both  
 4935 in languages such as in Rushani (which are split Ergative) , (17a), (Sergienko 2023), and in  
 4936 languages like Shughni (Parker 2023), as seen in (17b); the latter has a strictly Nominative-  
 4937 Accusative pattern of case-marking in both the present and the past tenses/stems. We see



4938 that in both languages Dative-case marked arguments differ from other cases not just in  
 4939 terms of morphological realization, but also syntactic behavior.

4940 (17) a. (a subset of) Rushani case patterns (from [Sergienko 2023:11](#))

		1 SG	2 SG
	NOM	az	tu
4941	ERG	mu	tā
	ACC	mu	tā
	DAT	mu-ri	tā-ri

4942 b. (a subset of) Shughni case patterns (adapted from [Parker 2020](#))

		1 SG	2 SG	3 SG.F
	DIR (NOM)	wuz	tu/to	ya
4943	OBL (ACC)	mu	tu/to	wam
	DAT	mu-rd	tu-rd	wi-rd

4944 Both of these languages have counterparts of Sorani NCSs in which the higher argument  
 4945 crucially bears Dative case, as opposed to the expected case: Nominative in Shughni; or split  
 4946 (Nominative in imperfective, and Ergative in the perfective) in Rushani. (18a) illustrates a  
 4947 typical transitive clause in Rushani, which has a double-oblique pattern. There is default  
 4948 (or no) agreement on the verb, which does not agree with obliques. On the other hand,  
 4949 in the Dative-construction in (18b), the  $\phi$ -features of the non-Dative marked argument are  
 4950 reflected on the verb.

4951 (18) Rushani

4952 a. *Typical transitive*

4953 tā mu wunt.  
 2SG.OBL 1SG.OBL see.PST

4954 ‘You saw me.’ ([Sergienko 2023:7,\(2\)](#))

4955 b. *Dative-construction*

4956 wóy-ri yiyó-āθ xuš na sic.  
 3SG.M-DAT someone-NEG.INDEF good NEG become.PST.F

4957 ‘He did not like anyone [of these women].’ (adapted from [Sergienko 2023:24,\(38\)](#))

4958 Another example is provided from Shughni, which shows a second-position clitic on  
 4959 the first constituent of the clause (see [Parker 2020](#) for some discussion); this clitic always  
 4960 indexes an argument in Direct case. Note that in typical transitive clauses, the pronominal  
 4961 subjects bears Direct case as well as the second position clitic reflecting  $\phi$ -features of this  
 4962 argument, with the object realized in Oblique case, (19a). On the other hand, a different case  
 4963 pattern arises in the Dative-construction (called *oblique-first construction* (OFCs) in [Parker](#)  
 4964 [2023](#)): The non-Dative argument bears Direct case, and additionally the second-position  
 4965 clitic reflects the  $\phi$ -features of this argument, ‘exam questions’ in (19b):

4966 (19) Shughni

4967 a. *Typical transitive*  
 4968 to=t mu wint.  
 you.DIR=2SG.CL 1SG.OBL see.PST  
 4969 ‘You saw me.’ (Parker 2020:(6))

4970 b. *Dative-construction*  
 4971 [tu-rd]=en [wað ikzamin sawol]-en qīni čud o?  
 you-DAT=3PL.CL [those.PL exam question]<sub>dir</sub>-PL difficulty do.PST Q  
 4972 ‘Were those exam questions difficult for you?’ (Parker 2023:(12))

4973 At this point, it is evident that the NCSs in Pamiri languages differ substantially from  
 4974 their counterparts in Sorani both in terms of their morphological realization and the over-  
 4975 all agreement patterns. The significant question is whether the Oblique arguments in the  
 4976 *oblique-first construction* (OFCs) subjects or not. Parker (2023) provides a strong piece of  
 4977 evidence based on the subject-oriented anaphor *xu* ‘self’ that they are not. (20a) confirms  
 4978 that *xu* is subject-oriented. On the other hand, in the OFCs, *xu* cannot be co-indexed with  
 4979 the Dative argument, (20b).

4980 (20) Shughni

4981 a. wuz<sub>i</sub>=um tu<sub>k</sub>-rd xu<sub>i</sub>/\*<sub>k</sub> čīd divišt.  
 I=1SG.CL you-DAT self house show.PST  
 4982 ‘I showed you {my/\*your} house.’ (Parker 2023:(17a))

4983 b. *Dative-construction*  
 4984 [tu<sub>i</sub>-rd] {tu<sub>i</sub> / \*xu<sub>i</sub>} čoy fort o?  
 you-DAT your / self tea be.desirous.3SG.PRS Q  
 4985 ‘Do you want your tea’ (Parker 2023:(18))

4986 The same property holds in the split-Ergative Rushani language. While in typical clauses,  
 4987 the (Ergative) argument can bind the subject-oriented reflexive, (21a), this is not possible in  
 4988 the OFCs, (21b). In this regard, the oblique argument bearing Dative case does not display  
 4989 properties associated with subjects (whether Nominative or Ergative).

4990 (21) Rushani

4991 a. *Typical transitive*  
 4992 mu xu det.  
 1SG.OBL self beat.PST  
 4993 ‘I beat myself.’ (Sergienko 2023:25,(42))

4994 b. *Dative-construction*  
 4995 \*wóy-ri xu xuš na sat.  
 3SG.M-DAT self good NEG become.PST.M  
 4996 ‘He did not like himself.’ (cf. (18b))

4997 Although more in-depth research is needed, the preliminary conclusion to be drawn  
 4998 is that the oblique-first constructions in Pamiri languages are most likely *intransitive* in  
 4999 nature, such that the Direct-case marked argument behaves as the grammatical subject, and  
 5000 the Dative-marked argument is an applied argument. In fact, the evidence for this again  
 5001 comes from the subject-oriented reflexive *xu* in Shughni. The example in (22b) shows that  
 5002 the direct-case bearing argument can bind *xu*.<sup>8</sup>

5003 (22) Shughni: *Dative-construction*

- 5004 a. mu-rd=en wāð mu gandagi-yaθ-ǰāt xuš nist.  
 me-DAT=3PL.CL they.DIR my badness-AUG-for pleasant NEG.COP  
 5005 ‘I don’t like them because of my badness.’
- 5006 b. mu<sub>i</sub>-rd=en wāð<sub>k</sub> xu<sub>i/\*k</sub> gandagi-yaθ-ǰāt xuš nist.  
 me-DAT=3PL.CL they.DIR self badness-AUG-for pleasant NEG.COP  
 5007 ‘I don’t like them because of {their/\*my} badness.’

5008 The patterns seen above suggest that within Iranian, it is possible to identify Dative  
 5009 arguments in clauses that are superficially similar to Sorani NCSs. However, these Dative  
 5010 arguments fail to show subject properties, and do not enter the indexation system. At the  
 5011 same time, there are other languages that behave more like Sorani, viz. in having NCSs  
 5012 with subject-like properties, and Ergative indexation patterns. Yazghulami, another closely-  
 5013 related Pamiri language, is instructive on this point. Yazghulami is a split-Ergative language,  
 5014 and exhibits double-oblique pattern in the perfective, just like Rushani.<sup>9</sup> Yazghulami also  
 5015 has the oblique-first construction, but the marking of this oblique is not Dative, which is  
 5016 also formed similar to Shughni and Rushani, i.e., via the oblique case plus an originally  
 5017 postposition which have grammaticalized into the case marker; rather, it is syncretic with  
 5018 the oblique found with Ergatives. Crucially, in this case, the oblique argument can bind a  
 5019 subject-oriented reflexive. Consider (23b). Jamison (2022) analyzes this oblique argument  
 5020 as Ergative, much as in our analysis of Sorani.

5021 (23) Yazghulami

- 5022 a. *Typical transitive*
- 5023 tu ʒ=mon wint.  
 2SG.ERG DOM=1SG.OBL see.PST  
 5024 ‘You saw me.’ (Jamison 2022:36,(36))
- 5025 b. *Non-canonical subject construction*

<sup>8</sup>Thanks to Clinton Parker (p.c.) for eliciting the Shughni data in (22).

<sup>9</sup>Yazghulami also shows a DOM marker on pronominal Direct Objects in both aspects, which is realized as a prefix. Some studies (Jamison 2022) treat this as an accusative form of the pronominal. If this latter approach is true, it would mean that Yazghulami differentiates Ergative and Accusative cases in terms of morphological realization as well. We have not been able to evaluate the full case system due to lack of access to complete data. We are also using ?? in the glossing for morphemes that are not clearly stated the literature, or at least are not clear to us.

5026           dim           na xi   δoγd   manor γu.  
               3SG.F.OBL ?? self daughter much love.PRS  
 5027           ‘She loves her daughter very much.’ (Edelman 1974, as cited in [Sergienko](#)  
 5028           2023:23,(36))

5029           The discussion in this section is intended to highlight the fact that it is possible that  
 5030 there are reasons within the theory of case assignment to distinguish a Dative from an Erga-  
 5031 tive case under certain circumstances: this seems necessary for some Pamiri languages like  
 5032 Rushani or Shughni. Sorani, however, is unlike these languages, in that it lacks a morpho-  
 5033 logically distinct Dative. Sorani also fails to show the indexation behavior that accompa-  
 5034 nies these Dative marked arguments, which do not behave like subjects. Instead, the subject  
 5035 in Sorani NCSs behaves like a true subject, with Ergative indexing; from a comparative  
 5036 perspective, this behavior is also found in Yazghulami where an Ergative analysis is also  
 5037 well-motivated.

5038           Overall, then, the motivation for positing a Dative case in Sorani receives little motiva-  
 5039 tion both from within the language, and when additional Iranian languages are considered.<sup>10</sup>

5040 **Derived Ergative** A further theme involving Ergative case leads us back to the discussion  
 5041 of IO-passives of ditransitives from Chapter 5. There, we demonstrated that such passives  
 5042 are similar to NCSs in Sorani, in the sense that that the passivized-on IO behaves as a  
 5043 grammatical subject, and is indexed with the MP clitic in both aspects. The relevant data  
 5044 are repeated in (24) and (25), for the active and IO-passives clauses in the the imperfective  
 5045 and perfective, respectively.

- 5046   (24)   a. Azad dyarî-ek-an pê=man   de-d-at.  
               Azad gift-the-PL to=1PL.CL IND-give.PRS-3SG  
 5047           ‘Azad will give the gifts to us.’  
 5048           b. Azad dyarî-ek-an=î       pê=man   da.  
               Azad gift-the-PL=3SG.CL to=1PL.CL give.PST  
 5049           ‘Azad gave the gifts to us.’  
 5050   (25)   a. ême   dyarî-ek-an=man   pê-de-d-rê-(n).  
               1PL.pro gift-the-PL=1PL.CL to-IND-give.PRS-PASS.PRS-PL  
 5051           ‘We will be given the gifts.’  
 5052           b. ême   dyarî-ek-an=man   pê-di-ra-(n).  
               1PL.pro gift-the-PL=1SG.CL to-give.PRS-PASS.PST-PL  
 5053           ‘We were given the gifts.’

5054           We took this behavior to indicate that the Subject in IO passives bears Ergative case.  
 5055 Crucially, though, the case assignment mechanism is different in these passives and NCS  
 5056 constructions, even though both show Ergative Subjects in both aspects. In the latter, we

<sup>10</sup>Of course, it is plausible that some languages could have morphologically distinct Dative case from Nom-  
 inative (as in Icelandic) or Ergative (as in Nepali), which would still function as grammatical subject.

5057 assume that it is a type of inherent Ergative, assigned by an Applicative Voice head. In IO  
5058 passives, on the other hand, there appears to be derived Ergative– that is to say, Ergative on  
5059 a derived Subject.

5060 This last point– Ergative on a derived Subject– deserves some further remarks since it  
5061 has significant theoretical implications. In order to appreciate it, it is important to remind  
5062 ourselves of the case patterns in active clauses. Recall that when P-arguments (and posses-  
5063 sors) are realized in situ, they are realized as MP clitics; on our analysis, as they are oblique,  
5064 (24). These arguments also undergo clitic movement; and they are not agreed with. As such,  
5065 in terms of the cases in (15) and what we saw in Chapter 4, they are assigned Accusative  
5066 case. We accounted for this via the case rule in (26).

5067 (26) CASE RULE 1: Possessors/P-arguments are assigned Accusative [-subj,+obl].

5068 Chapter 5 also demonstrated that when possessors and P-arguments are realized as MP  
5069 Agreement, they exhibit the properties that are otherwise shown by clitics assigned Objec-  
5070 tive [-subj,-obl] case in transitive clauses. Strikingly, they do this only when there is another  
5071 argument local to them– a DO– that is assigned Objective case. We took this effect to be  
5072 part of the generalization in (27):

5073 (27) HYPOTHESIS: Possessors/P-arguments behave as if they have Objective case only  
5074 in clauses where the DO has this case.

5075 To account for this mechanically, we posited another case rule, (28):

5076 (28) CASE RULE 2: Assign Objective case to moving [+m] pronouns when a local argu-  
5077 ment is also assigned Objective.

5078 This rule is stated abstractly, since a precise statement can only be made in a worked-out  
5079 theory of how case features are assigned. For our purposes here, the important point to focus  
5080 on is the manner in which Case Rule 2 is *contextual* in a particular way: one type of case  
5081 assignment may override another when specific conditions in the context of the assignee  
5082 are met. In the specific case of (28) there is a kind of ‘matching’ (or attraction) effect, with  
5083 one argument being assigned features that are similar to the another one in its local context.  
5084 The basic intuition that the case of an argument is contextually determined fits well with the  
5085 guiding intuitions behind configurational theories of case assignment. Within this type of  
5086 theory, a P-argument could bear distinct cases that are dependent on the presence or absence  
5087 of another argument in its local domain (usually characterized as *phase*, cf. Baker 2015).

5088 The question then is how this kind of reasoning might be applied to the Ergative case  
5089 found in IO passives. The reason to highlight this point is because a derived Ergative pro-  
5090 vides important evidence concerning the status of Ergative case cross-linguistically. In sim-  
5091 ple form, derived Ergative is not compatible with the inherent case view of ergativity (e.g.,  
5092 Woolford 2006a; Legate 2008; Massam 2001), which takes this to be impossible. This is  
5093 referred to as the *Ergative Case Generalization* in Marantz (1991).

5094 (29) **Ergative Case Generalization:** Even when ergative case may go on the subject of  
5095 an intransitive clause, ergative case will not appear on a derived subject. (Marantz  
5096 1991:236)

5097 Legate (2012) suggests two configurations that would allow the Ergative Case General-  
5098 ization to be tested:

5099 “The reference [by Marantz] to the subject of an intransitive clause is to cir-  
5100 cumvent the confound of the transitivity restriction: in general, transitive verbs  
5101 have a thematic subject that becomes the surface subject, making it impossible  
5102 to test whether a derived subject could bear ergative case. An additional way  
5103 around the confound would be a two-argument verb in which both arguments  
5104 are internal, for example, *the passive of a double object verb*, or *the applicative*  
5105 *of an unaccusative verb*. If the Ergative Case Generalization holds, the subject  
5106 of such verbs would not bear ergative case, despite the presence of two DP  
5107 arguments. (Legate 2012, 183, emphasis added)”

5108 As we noted in Chapter 5, applicatives of unaccusatives have recently featured promi-  
5109 nently in the literature on Ergative case, with an eye towards probing (29) (Baker 2014;  
5110 Deal 2019). There are cases that appear to show that it is false. For example, in Shipibo,  
5111 a language with Ergative-Absolutive alignment, applicatives of unaccusatives feature Erga-  
5112 tive case on the theme argument - a derived (transitive) subject. In the basic unaccusative  
5113 in (30a), the subject is Absolutive, whereas in the applicative unaccusative in (30b), the  
5114 subject is Ergative.

- 5115 (30) a. Kokoti-ra joshin-ke.  
fruit.ABS-EV ripen-COMPL  
5116 ‘The fruit ripened.’ (Baker 2014:345)
- 5117 b. Bimi-n-ra Rosa joshin-xon-ke.  
fruit-ERG-EV Rosa.ABS ripen-APPL-COMPL  
5118 ‘The fruit ripened for Rosa.’ (Baker 2014:346)

5119 However, the status of the derived ergative from the perspective of passivization of ditran-  
5120 sitives has not been reported yet. This makes the Sorani IO passive somewhat unique at  
5121 present.

5122 Much discussion has been devoted to testing (29)– and even more to the debate between  
5123 inherent and configurational approaches to ergativity.<sup>11</sup> The arguments presented in this  
5124 study suggest that the latter is a false dichotomy. Taken together, our analyses point to  
5125 Ergative case being assigned in what look like three different ways:

5126 (31) Ergative assignment in Sorani

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<sup>11</sup>Compare Baker and Vinokurova (2010) who argue for two methods of case assignment within the lan-  
guage Sakha (Turkic), but for different cases. Here we take it one step further and suggest that the same case  
features can be assigned in different ways.

- 5127 a. INHERENT: For arguments introduced in the Applicative head in NCS.
- 5128 b. CONTEXTUAL 1: For transitive Subjects in clauses that contain Asp[perf].
- 5129 c. CONTEXTUAL 2: For the Subjects in IO passives.<sup>12</sup>

5130 As we noted earlier in this chapter, all clauses have the same probe structure on T and  
 5131  $\emptyset$ . Differences in indexation properties follow from the differences in case assignment in  
 5132 perfectives and imperfectives. Since these differences make reference to a property of the  
 5133 clause in the local environment of the case-assignee, they are contextual in the broad sense  
 5134 that we intend here. Importantly, while both (31b) and (31c) are both contextual, one cannot  
 5135 be reduced to the other: one is aspect-sensitive, and the other is not.

5136 We have emphasized these aspects of our treatment of Ergative in Sorani to focus at-  
 5137 tention on the ways in which it connects with **both** inherent and configurational theories  
 5138 of case. As far as the latter are concerned, we hope that the level of precision that we have  
 5139 reached— including but not limited to the speculations concerning IO passive/clausal posses-  
 5140 sion structural links in 5.4— will prove important in formalizing a theory of case assignment  
 5141 that operates with decomposed features.

5142 On this last point, the idea that case must be approached in a granular way makes it  
 5143 less surprising that debates like the ‘Inherent versus configurational Ergative’ one have not  
 5144 produced a clear outcome. If we are correct, discussions operating with labels like *Ergative*  
 5145 etc. might not be operating with the correct unit of analysis. Generalizing, the idea worth  
 5146 exploring in the future is that some of the particular points of disagreement in the literature  
 5147 on case assignment are contentious precisely because they operate in terms of case labels,  
 5148 not finer-grained case features. That is, for a case defined as e.g.  $[+\alpha, -\beta]$ , it is possible  
 5149 that the factors involved in assigning  $[\pm\alpha]$  are different in kind from those involved in  
 5150 assigning  $[\pm\beta]$  (e.g. one reflects a configurational property, the other whether or not there  
 5151 is a particular type of head in a local relation). It is also possible that one and the same set of  
 5152 features might be assigned in more than one way, as in our analysis of Sorani summarized  
 5153 in (31).

5154 In summary, it remains to be seen what will emerge from an attempt to formulate prin-  
 5155 ciples of case feature assignment that uses the kinds of insights we have extracted from  
 5156 indexation systems as boundary conditions.

## 5157 **6.2 A ‘Height-Only’ alternative to Case Targeting**

5158 A central claim in our work is that MS operations may target specific case features in the  
 5159 ways illustrated above. In its essence, we can draw a parallelism between the so-called gen-  
 5160 eralized vs. specified feature-probing (terms due to McGinnis 2008). In a language like En-  
 5161 glish, uninterpretable  $\phi$ -features generated on a syntactic head are generalized categories,  
 5162 such as person and number. This probe finds the closest constituent that bears the inter-  
 5163 pretable feature. However, in a specified probe, the feature specifications of a head are

---

<sup>12</sup>And possibly those in clausal possession; recall 5.4.

5164 more ‘articulated’, as such it looks for an argument that bears the specific features on the  
5165 head, which may or may not be the closest argument.<sup>13</sup>

5166 As part of the argument that the grammar works in this way, we consider alternative  
5167 proposals, and show where they have difficulties in accounting for the facts of Sorani. A  
5168 type of analysis that is clearly very different from ours would be one that makes no reference  
5169 to case in accounting for Sorani indexation. Thinking about this on a general level, one way  
5170 to eliminate case from the equation is to make indexation behavior fall out from having  
5171 probes target only the highest argument in their search domain. This kind of *height-only*  
5172 approach is motivated by the fact that it appeals to a kind of locality that clearly plays a role  
5173 in morphosyntax. For example, locality of this type is operative in our own analysis of Hindi  
5174 in Chapter 2. Recall that in that language, both Subjects and DOs can be agreed with—on  
5175 our analysis, because they can both be [-obl]. In clauses that contain two such arguments, it  
5176 is the Subject that is agreed with. We accounted for this fact by appealing to locality in the  
5177 statement of how the relevant probe(s) in Hindi function:

5178 (32) Hindi probes: Agree with the highest [-oblique] argument.

5179 The question at hand is whether the Sorani system could be analyzed with **only** a locality  
5180 condition like that in (32); that is to say, without reference to case at all.

5181 We will examine this alternative approach in two steps. First, we will look at height-  
5182 only in the abstract, and show that it makes a number of incorrect predictions when the  
5183 full range of Sorani facts are considered. One point of interest is that possible solutions  
5184 to the problems we identify make reference to transitivity; this effectively introduces an  
5185 argument’s case into the picture: precisely the position we have argued for in the preceding  
5186 chapters.

5187 The second part of the discussion turns to a specific case-study. As it turns out, a height-  
5188 only analysis has also been extended to alignment splits of a type that share many properties  
5189 with the one found in Sorani. [Kalin and van Urk \(2015\)](#) in particular employ this kind of  
5190 system to analyze indexation in certain Neo-Aramaic varieties. We show that while their  
5191 approach is able to correctly account for the indexation patterns of the languages that they  
5192 examine, there are other varieties for which it makes incorrect predictions. For these refer-  
5193 ence to case features is required, along the lines of what we have demonstrated for Sorani.

### 5194 **6.2.1 Height-only in the abstract**

5195 As we noted above, case targeting in Sorani does not exhibit hierarchy/superiority effects  
5196 as long as the DPs in question are viable goals for the probes; but it nevertheless is subject  
5197 to locality effects. By this, we mean that for example, both DPs are within the same clause  
5198 such that a DP is not inside a CP complement of that verb, or a DP is not contained inside  
5199 of another DP (see 6.3.1 for some discussion).

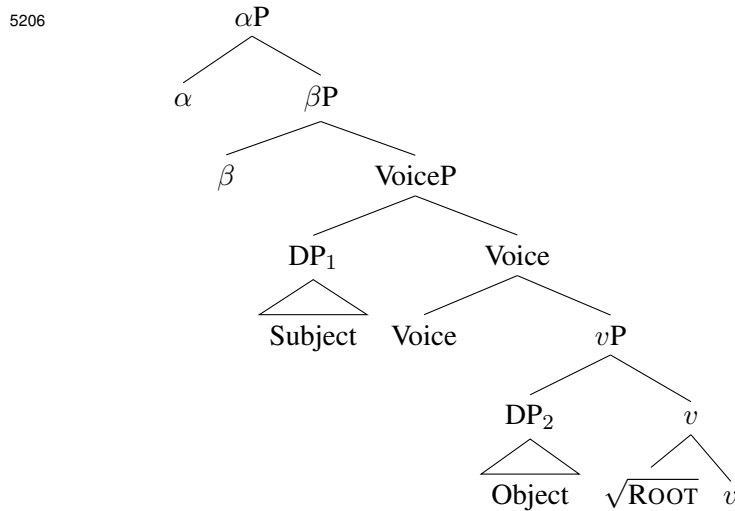
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<sup>13</sup>Specified (or articulated) probes have been implemented for a family of restrictions named the Person-Case Constraint (PCC; [Perlmutter 1970](#); [Anagnostopoulou 2006](#); [Preminger 2009](#); [Deal 2021](#), a.o.) In PCC configurations (as well as direct/inverse systems), whenever two DPs are located in the domain of a single probing head, the result of Agree seems to depend not on the relative height of the arguments but on their relative ranking on a nominal hierarchy of ontological salience, e.g., a person hierarchy.



5200 The question at hand is whether the system could be analyzed in a way that makes use  
 5201 only of locality, i.e., to the relative height of arguments in a clause. Abstractly, we will  
 5202 assume in exploring this initially that there are two heads  $\alpha$  and  $\beta$  that are involved in  
 5203 indexation (like our T and  $\mathcal{O}$ ). We will further assume that these are above the VoiceP in  
 5204 which the Subject and Direct Object are merged, as in the following structure:

5205 (33) Structure



5207 Beyond these assumptions, aspectual sensitivity has to be introduced in the picture in  
 5208 some form; we will simply stipulate that  $\alpha$  and  $\beta$  possess probes whose behavior is deter-  
 5209 mined by Aspect, without dwelling further on how this might be encoded formally.<sup>14</sup>

5210 Anticipating the forthcoming illustration of Sorani Kurdish, the operations performed  
 5211 by the  $\alpha$  and  $\beta$  probes could be stated as in (34-35):

5212 (34) In Aspect 1 = Nom/Acc

5213 a.  $\alpha$ : Clitic moves DP2

5214 b.  $\beta$ : Agrees with DP1

5215 (35) In Aspect 2 = Erg/Abs

5216 a.  $\alpha$ : Agrees with DP1

5217 b.  $\beta$ : Clitic moves DP2

5218 This analysis dispenses with reference to case by making what probes operate in a way  
 5219 that is sensitive to height alone. For MS Agreement, each of  $\alpha$  and  $\beta$  target the DP that is  
 5220 most local to them. MS Clitic movement does the opposite; it targets arguments that are  
 5221 lower than the Subject. Let us grant that further assumption(s) could be adopted to make  
 5222 the subject invisible for MS Clitic probes.

<sup>14</sup>See Akkuş 2020 for a concrete proposal.

5223 Applied more concretely to Sorani Kurdish,  $\alpha$  and  $\beta$  correspond to T and  $\mathcal{O}$ . Shifting  
 5224 now to focus on what the probes on these heads would do, the properties of transitive clauses  
 5225 could be accounted for by positing that these heads have the properties in (36-37):

- 5226 (36) The probes on T
- 5227 a. MS Agree with the highest argument in imperfective clauses;
  - 5228 b. MS Clitic Move the lower (=not highest) pronominal clitics in perfective clauses.
- 5229 (37) The probes on  $\mathcal{O}$
- 5230 a. MS Clitic Move lower arguments in imperfective clauses;
  - 5231 b. MS Agree with the highest argument in perfective clauses.

5232 In terms of morphology, the elements interacting with T would be MP Agreement; those  
 5233 with  $\mathcal{O}$ , on the other hand, would be realized in MP Clitic form.

5234 This approach is able to produce the correct results for transitives. It might also be able  
 5235 to make other distinctions, e.g. in defining which arguments are eligible for *pro*-drop– recall  
 5236 earlier that this is possible only for Subject, i.e., the highest arguments in the clause.

5237 It would be possible to ask how satisfying this analysis of transitive clauses is, i.e. how  
 5238 it (and the assumptions that it requires) compare with case targeting. But we will not do this,  
 5239 because the analysis at hand makes incorrect predictions when further facts are considered.  
 5240 In particular, consider intransitives– whether unergatives or unaccusatives, or passives– in  
 5241 the perfective . Given the specification of  $\mathcal{O}$ 's probes in (37), the sole arguments of these  
 5242 predicates should be targeted by this head, and their agreement should be in MP Clitic form.  
 5243 This is clearly false; as we saw in earlier chapters, intransitives of this type are indexed by  
 5244 MP Agreement (38):

- 5245 (38) a. Otombel-ak-an=man be-ra-*n*.  
           car-the-PL=1 PL.CL take.PRS-PASS.PST-PL  
 5246           ‘Our cars were taken away.’
- 5247 b. (*ême*) kewt-*în*.  
           1 PL.pro fall.PST-1 PL  
 5248           ‘We fell.’
- 5249 c. (*ême*) kok-*în*  
           1 PL.pro cough.PST-1 PL  
 5250           ‘We coughed.’

5251 The problem arises from the fact that it is not simply aspect that determines indexation  
 5252 behavior: it is aspect along with the transitivity of the clause. An attempt to incorporate  
 5253 this sensitivity into the a height-based account would have to assume that the statements in  
 5254 (36-37) make reference to this aspect of clause structure so that they apply only in transitive  
 5255 clauses; an additional statement would be required to specify that T is the active probe in  
 5256 intransitive clauses (in an aspect-insensitive way). However this is done, it essentially un-  
 5257 dermines the premise with which we started, viz. that this alternative operates without ref-  
 5258 erence to case features. Since transitivity plays a defining role in defining case-alignment,

5259 referring to it in the statement of how probes operate is tantamount to holding that case fea-  
5260 tures drive indexation behavior—the opposing position that we have argued for throughout  
5261 this work.

5262 As we said above, this assessment of height-only is designed with the particularities of  
5263 Sorani in mind. We assumed, for example, that there are two different heads that are in-  
5264 volved in the indexation, and not e.g. that imperfective and perfective clauses have different  
5265 numbers of probes available in them.<sup>15</sup>

5266 On this latter point, [Kalin and van Urk \(2015\)](#) employ a difference of this type in their  
5267 analysis of Neo-Aramaic varieties, and show that it is able to account straightforwardly for  
5268 the properties of transitive clauses. In order to further motivate the case targeting approach  
5269 we will now review their arguments, and demonstrate that (as in the case of Sorani) case  
5270 targeting is required when a wider range of facts (and varieties) are considered.

### 5271 **6.2.2 Illustration: Indexation in Neo-Aramaic**

5272 A solely height-based analysis runs into issues in languages beyond Sorani Kurdish as  
5273 well. As an illustration, we examine the indexation patterns from some North-Eastern Neo-  
5274 Aramaic (NENA) varieties. Many NENA dialects exhibit an aspect-based split between  
5275 imperfective and perfective, in which the latter has ergative-absolutive morphology, and  
5276 an alignment inversion that parallels the feature of the Iranian languages analyzed in this  
5277 book (see [Coghill 2016](#) for the role Kurdish varieties might have played in this development  
5278 historically).

5279 The verbal template of transitive verbs in Neo-Aramaic languages involves the presence  
5280 of two sets of suffixes – traditionally called *S-suffix* and *L-suffix* – that appear on the verb  
5281 stem in a fixed order in both imperfective and perfective aspects. This is schematized in  
5282 (39).

5283 (39) Verb Stem<sub>PERF/IMPF</sub> – S-suffix – L-suffix

5284 The labels S-suffix and L-suffix correspond to different sets of  $\varphi$  markers (see e.g., [Khan](#)  
5285 [1999, 2004](#); [Doron and Khan 2012](#); [Coghill 2016](#); [Kalin and van Urk 2015](#)). The S-suffix,  
5286 which stands for *simple-suffix*, historically marked the subject agreement. The term L-suffix,  
5287 named as such since all the markers start with an *l-*, was historically a dative/accusative  
5288 preposition, and synchronically these  $\varphi$  elements pick out clitics ([Doron and Khan 2012](#);  
5289 [Kalin and van Urk 2015](#)). In terms we adopt in this study, the L-suffix is morphophon-  
5290 logically (MP) treated as a clitic, whereas the S-suffix behaves as an MP agreement. At  
5291 least descriptively, the Oblique Case in Iranian is functionally equivalent to the L-suffixes  
5292 in Aramaic, and Direct Case corresponds to the S-suffixes. Therefore, in keeping with our  
5293 treatment of Sorani indexation patterns, we illustrate the S-suffix in *italics* and the L-suffix  
5294 in **boldface** to reflect their morphophonological status.

5295 Some dialects have the kind of ‘mirror image’ effect in indexation patterns that is found  
5296 in Sorani: the same sequence of agreement markers index the opposite grammatical rela-  
5297 tions in the perfective and imperfective. This is schematized in (40):

---

<sup>15</sup>Or that probe structure differs in other ways by aspect; on this see 6.2.3.

5298 (40) ‘Mirror-Image’ Neo-Aramaic

5299		S-SUFFIX	L-SUFFIX
	IMPERFECTIVE	Subject	DO
		×	
	PERFECTIVE	DO	Subject

5300 So, for example, in both of the examples in (41), the *á=lu* sequence cross-references the  
 5301 Subject and the Object, but it does so inversely depending on aspect. In the imperfective,  
 5302 (41a), the morpheme *-á* indexes the Subject and the morpheme *-lu* indexes the Object. On  
 5303 the other hand, in the perfective aspect, (41b), the morpheme *-á* indexes the object and the  
 5304 morpheme *-lu* indexes the subject.

5305 (41) Jewish Sanandaj (Doron and Khan 2012:4a-b)

- 5306 a. *baxt-äke barux-äwal-i garš-á=lu.*  
 woman-DEF friend-PL-my pull.IPFV-NOM.3FS=ACC.3PL  
 5307 ‘The woman pulls my friends.’
- 5308 b. *barux-äwal-i baxt-äke gərš-á=lu.*  
 friend-PL-my woman-DEF pull.PFV-ABS.3FS=ERG.3PL  
 5309 ‘My friends pulled the woman.’

5310 The same property holds in Christian Barwar as well, as in (42). The morphemes in the  
 5311 sequence *í=le* cross-reference different arguments depending on the aspect.

5312 (42) Christian Barwar (Kalin and van Urk 2015:5a-b, glossing maintained)

- 5313 a. *qaṭl-í=le.*  
 kill.IPFV-S.3PL-L.3MS  
 5314 ‘They kill him.’
- 5315 b. *qṭil-í=le.*  
 kill.PFV-S.3PL-L.3MS  
 5316 ‘He killed them.’

5317 Kalin and van Urk (2015) provide an elegant height-based analysis that captures the  
 5318 agreement pattern in (41) and (42) (they focus on Christian Barwar, as well as what is  
 5319 referred to as a ‘partial’ agreement reversal in Senaya; we leave the latter to the side since  
 5320 it is orthogonal to the discussion here). In their system, both imperfective and perfective  
 5321 have an Aspect head, but this head  $\phi$ -probes only in the imperfective. Since the Asp head is  
 5322 lower than Tense, and carries a  $\phi$ -probe in the imperfective, it takes over the role of licensing  
 5323 the *highest* argument (subject). The T head is then related to the object in the form of an  
 5324 L-suffix (more precisely, MP clitic). Thus, the result is the indexation pattern of the sort  
 5325 in (41a)-(42a). On the other hand, in the perfective aspect, T is the only head that carries

5326 a  $\phi$ -probe; therefore it this probe that agrees with the subject, with this being expressed  
5327 morphologically in the clitic form (i.e., L-suffix), yielding (41b)-(42b).<sup>16</sup>

5328 This proposal derives the properties transitive clauses as well as the intransitive clauses  
5329 in Christian Barwar and Senaya varieties, which are illustrated in (43). These show agree-  
5330 ment with the subject realized as an L-suffix:

- 5331 (43) a. axnii dmex=**lan**.  
we sleep.PFV-L.1PL  
5332 ‘We slept.’ (Senaya; Kalin and van Urk 2015:3)  
5333 b. kalba nwix=**le**.  
dog bark.PFV-L.3MS  
5334 ‘The dog barked.’ (Christian Barwar; Kalin and van Urk 2015:28b)

5335 In the perfective aspect, since T is the only  $\phi$ -probe bearer, it licenses the highest (sole) argu-  
5336 ment in the L-suffix form, regardless of whether that argument is generated in Spec, VoiceP  
5337 (as in unergatives), or as the complement of the verb (as in unaccusatives).

5338 Their system predicts quite generally that intransitives in the perfective should be in-  
5339 dexed with L-marking. While this prediction is borne out for the C. Barwar and Senaya  
5340 varieties, such a system cannot extend to Sorani Kurdish varieties; as we saw above, intrans-  
5341 itives invariably behave as Nominative in Sorani.

5342 Interestingly, given the parallels and possible connections between Kurdish and NENA,  
5343 the same type of problem arises when additional NENA varieties are taken into consid-  
5344 eration. We will first briefly introduce the classifications of the dialects according to their  
5345 alignment behavior, and then examine the implications of the relevant patterns for a height-  
5346 based account.

5347 Doron and Khan (2012) classifies the NENA dialects according to the degree of erga-  
5348 tivity they exhibit: (i) Extended-Erg(ative) dialects, (ii) Split-S dialects, and (iii) Dynamic-  
5349 stative. Let us introduce each dialect type in turn and focus on the implications of the Split-S  
5350 and potentially Dynamic-stative dialect groups.

5351 **Extended-Erg dialects** In these dialects, the ergative marker has been extended to unac-  
5352 cusatives as well, thus all A and S arguments are cross-referenced with an L-suffix. The  
5353 dialects discussed in Kalin and van Urk (2015) also fall into this category.<sup>17</sup>

- 5354 (44) Aramaic: Christian Barwar (Doron and Khan 2012:16)  
5355 a. xawr-āwaθ-i brat-i griš-*a*=**la**.  
friend-PL-my daughter-my pull.PERF-ABS.3FS=ERG.3PL  
5356 ‘My friends pulled my daughter.’

<sup>16</sup>We will not review their analysis of the DO’s indexation properties in the perfective, as this is tailored to some properties that are specific to Aramaic varieties (in particular, a type of PCC effect).

<sup>17</sup>See Doron and Khan (2012) for the discussion of why these dialects should still be considered ergative-absolutive, and not nominative-accusative. See also Kalin and van Urk (2015) for the same treatment.

- 5357           b. kalba nwix=**le**.  
                   dog bark.PERF=ERG.3MS  
                   ‘The dog barked.’  
 5358  
 5359           c. brat-i           qim=**la**.  
                   daughter-my rise.PERF=ERG.3FS  
 5360                   ‘My daughter rose.’

5361 **Split-S dialects** In these dialects, the ergative marker is found with *transitive* and *unergative*  
 5362 *verbs*, but not with *unaccusative* predicates.

5363 (45) Aramaic: Jewish Sanandaj (Doron and Khan 2012:15)

- 5364           a. barux-āwal-i brat-i           gərš-a=**lu**.  
                   friend-PL-my daughter-my pull.PERF-ABS.3FS=ERG.3PL  
                   ‘My friends pulled my daughter.’  
 5365  
 5366           b. kalba nwəx=**le**.  
                   dog bark.PERF=ERG.3MS  
                   ‘The dog barked.’  
 5367  
 5368           c. brat-i           qim-a.  
                   daughter-my rise.PERF-ABS.3FS  
 5369                   ‘My daughter rose.’

5370 **Dynamic-Static** As noted in Doron and Khan (2012), in this dialect group, the ergative  
 5371 marker is *optionally* found with unaccusative predicates.<sup>18</sup> The absolutive marking of unac-  
 5372 cusative verbs survives in perfective statives (a kind of present perfect), as in (46a); ergative  
 5373 marking appearing in dynamic unaccusatives, (46b).<sup>19</sup>

5374 (46) Aramaic: Jewish Urmi (Doron and Khan 2012:23)

- 5375           a. brat-i           qim-a.  
                   daughter-my rise.PERF-ABS.3FS  
                   ‘The daughter has risen.’  
 5376

<sup>18</sup>Akkuş (2020) notes a very similar pattern for a Mutki subvariety of Zazaki.

<sup>19</sup>There is yet another type of alignment that is found in a small number of dialects, in which both the A and O arguments are indexed with an L-suffix; this resembles the double-oblique pattern in Iranian languages.

- (i) a. qṭʿəl=**la=le**.  
           kill.PERF=L.3FS=L.3MS  
           ‘She killed him.’ (J. Urmi; Khan 2008:139-140, as cited in Coghill 2016:64)  
 b. pṭʿəx=**li=le**.  
           open.PERF=L.1SG=L.3MS  
           ‘I opened it.’ (C. Bohtan; Fox 2009:53, as cited in Coghill 2016:64)



5402 the Non Canonical Subject constructions of Iranian languages. Although the exact list of  
 5403 verboids varies from dialect to dialect (thanks to Eleanor Coghill, p.c. for discussion), they  
 5404 are often stative, experiencer predicates, e.g., ‘to have’, ‘to fear’; again, this is similar to  
 5405 what we saw in Iranian.

5406 We provide some examples from the Jewish Neo-Aramaic dialect of Betanura (Mutzafi  
 5407 2008), which exhibits properties of the Extended-Erg dialect group for the most part. In the  
 5408 imperfective, it exhibits nominative-accusative alignment, (48), whereas in the perfective  
 5409 Subjects of both transitives and intransitives are marked with the L-suffix for the most part,  
 5410 (49).<sup>21</sup>

5411 (48) Aramaic: Jewish Betanura

- 5412 a. bħapq-*an=ne*.  
 embrace.IPFV-NOM.1SF-ACC.3SF  
 5413 ‘I will embrace him.’<sup>22</sup> (Mutzafi 2008:85)
- 5414 b. boδ-*an*.  
 do.IPFV-NOM.1SF  
 5415 ‘I will do.’ (Mutzafi 2008:61)
- 5416 c. groy-*a*.  
 grow.up.IPFV=NOM.3SF  
 5417 ‘She grows up.’ (Mutzafi 2008:85)

5418 (49) Aramaic: Jewish Betanura

- 5419 a. nšiq-*ā=le*.  
 kiss.PERF-ABS.3SF-ERG.3SM  
 5420 ‘He kissed her.’ (Mutzafi 2008:85)
- 5421 b. unergative  
 5422 ... zəl=*le*  
 go.PERF=ERG.3SM  
 5423 ‘[The one who] ... went.’ (Mutzafi 2008:55)

---

<sup>21</sup>The restriction to ‘for the most part’ in the text is due to an additional property of Jewish Betanura: the S-suffix (referred to as E-suffix in the work) appears in the subjunctive mood, as well as in passive preterites (Mutzafi 2008:49).

(i) Aramaic: Jewish Betanura

- a. gniw-*i*.  
 steal.PERF-ABS.3PL  
 ‘They were stolen.’ (Mutzafi 2008:74)
- b. koδanta lá-zwin-*a*.  
 mule NEG-buy.PERF-ABS.3SF  
 ‘The mule was not bought.’ (Mutzafi 2008:68)

<sup>22</sup>The L-suffix undergoes full assimilation of *l* to a preceding *n*, *r* or *t*.



- 5424 c. unaccusative  
 5425 rwe=**le**.  
 grow.up.PERF=ERG.3SM  
 5426 ‘He grew up.’ (Mutzafi 2008:85)

5427 While showing this alignment split (more precisely, Extended-ergative) for typical verbs,  
 5428 predicates such as *šad* ‘fear’, *gəbe* ‘to be necessary’, *ʕājəb* ‘to wish, like’ combine with the  
 5429 L-suffix regardless of the aspect (see Mutzafi (2008) for a more comprehensive list of the  
 5430 verboids in this dialect).<sup>23</sup>

5431 (50) Aramaic: Jewish Betanura

- 5432 a. k-šad=**le**.  
 IND-fear=ERG.3SM  
 5433 ‘He fears.’  
 5434 b. k-šadwā=**le**.  
 IND-feared=ERG.3SM  
 5435 ‘He feared.’ (Mutzafi 2008:88)

5436 (51) Aramaic: Jewish Betanura

- 5437 a. māḏ ʕājəb=**la** yəmm-a.  
 what IND-like=ERG.3SF mother-her  
 5438 ‘whatever her mother likes.’  
 5439 b. g-ʕājəbwā=**li** ...  
 IND-liked=ERG.1SG ...  
 5440 ‘I liked ...’ (Mutzafi 2008:88)

5441 The behavior of verboids is also problematic for a purely height account. Recall that  
 5442 on an analysis like that developed in Kalin and van Urk 2015, the L-suffix appears in the  
 5443 perfective because it is there that T agrees with that argument. Since Aspect has the active  
 5444 probe in the imperfective, it is predicted that the highest argument there should always be  
 5445 index by an S-suffix. The behavior of the verboids falsifies this prediction. The aspect-  
 5446 invariance of their arguments calls for an analysis of the type developed in this book for  
 5447 Iranian languages (cf. section 5.2), in which certain predicates have inherently ergative  
 5448 subjects in both aspects.<sup>24</sup>

<sup>23</sup>It has been reported that some varieties that are Nominative/Accusative in both aspects show L-marking for verboids; see Coghill 2018 for verboids in the Telkepe (a town on the Mosul Plain) variety of Aramaic. Recall from Chapter 5 that this sort of pattern is also seen in Persian.

<sup>24</sup>A more comprehensive look at Aramaic would also consider another interesting pattern, which concerns the imperative forms of certain verb such as ʔ-θ-y ‘to come’. In such cases, the verb is also attached with the L-suffix rather than the S-suffix. e.g., θā=**lox** ‘(you.m) come!’, θā=**lax** ‘(you.f) come!’ (Mutzafi 2008:79). The presence of such forms further highlight the role of multiple elements in determining the form of the agreement.

5449 **6.2.3 Further alternatives and summary**

5450 As we noted at the beginning of this section, an analysis based solely on height is essentially  
5451 one in which generalized feature-probing targets the highest argument. This type of analysis  
5452 produces the correct results for a certain type of alignment system that is found in Neo-  
5453 Aramaic varieties, as we saw in our discussion of [Kalin and van Urk \(2015\)](#) above. However,  
5454 a purely height account fails to capture the whole range of facts across dialects (and within  
5455 the same a single dialect as well). In our view, the conclusion that must be drawn is the one  
5456 that we have motivated in our analysis of Sorani: viz., that probes are specified with specific  
5457 case-features, which may or may not be matched with the highest argument.

5458 The arguments against a purely height-based approach above consider one way of im-  
5459 plementing this view. There are of course other possibilities, which would differ in terms  
5460 of (among other things) where probes are located, and when they are active. We will briefly  
5461 address some further possible height manipulations, as a way of trying to make our central  
5462 argument precise. The conclusion that we will draw is that the relevant alternatives make  
5463 unmotivated assumptions about clause structure, and (crucially) are not able to account for  
5464 the full range of Sorani facts.

5465 **Manipulating probe height** In the abstract, another type of height-based alternative to  
5466 consider situates probes in different positions in the structure in a way that depends on  
5467 aspect.<sup>25</sup> With the ‘mirror-image’ property of Sorani indexation in mind, this would involve  
5468 something like the following:

- 5469 (52) Schematized probe reversal
- 5470 a. IMPERFECTIVE:  $P_1 > P_2$   
5471  $\Rightarrow P_1$  finds the Subject, and  $P_2$  the DO = Direct/Oblique
  - 5472 b. PERFECTIVE:  $P_2 > P_1$   
5473  $\Rightarrow P_2$  finds the Subject, and  $P_1$  the DO = Oblique/Direct

5474 The  $P_1$  probe is associated with Direct cases, and  $P_2$  with what we call obliques; this is  
5475 what would account for  $\varphi$  realization as an MP clitic or MP agreement.

5476 The intuition is that reversing the relative height of the probes in the structure pro-  
5477 duces the ‘flip’ between the two aspects. Various additional assumptions would be needed  
5478 to make this work—concerning e.g. when these probes operate, and how this interacts with  
5479 the position of the Subject and the Direct Object.

5480 When we look closer at how the details of this analysis might work, it is difficult to see  
5481 how it encodes the crucial difference between the two MS operations of Agreement and  
5482 Clitic Movement. Specifically, there is a sense in which it might not make sense to call the

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<sup>25</sup>Thanks to Tanya Bondarenko, p.c., for raising this possibility. [Akkuş \(2020\)](#) discusses something similar for probe structure in Northern Kurdish, and argues (as we do here) that having different probe structure in different aspects fails to explain the relevant facts.

The same study also argues against the existence of a phasehood asymmetry between perfective and imperfective stems in Iranian. In fact, it is easier to show that such a move is even less compelling for the Central Kurdish. Note that the “object shift” patterns remain constant in both aspects, with the Obl ( $\mathcal{O}$ ) head serving as the locus of object shift as well as the locus of certain Agree/Move operations.

5483 two probes the same in the two aspects, as they do different things: P<sub>1</sub> is MS Agreement  
5484 in the imperfective, but MS Clitic Movement in the perfective; with P<sub>2</sub> the situation is  
5485 reversed, since it must be for MS Clitic Movement in the imperfective, and MS Agreement  
5486 in the perfective. The sense in which these probes are the **same** (and simply in a different  
5487 configuration) is thus not at all clear.

5488 It might therefore be more transparent to say that the imperfective has a probe P<sub>3</sub> for  
5489 MS Agreement, which is higher than P<sub>4</sub> for MS Clitic movement. That is:

5490 (53) Schematized probe reversal (revised)

- 5491 a. IMPERFECTIVE: P<sub>1</sub> (Agreement) > P<sub>2</sub> (Clitic Movement)  
5492     ⇒ P<sub>1</sub> finds the Subject, and P<sub>2</sub> the DO = Direct/Oblique  
5493 b. PERFECTIVE: P<sub>3</sub> (Agreement) > P<sub>4</sub> (Clitic Movement)  
5494     ⇒ P<sub>3</sub> finds the Subject, and P<sub>4</sub> the DO = Oblique/Direct

5495 A problem that then arises is how to relate these probes to their morphological ex-  
5496 pression: P<sub>1</sub> and P<sub>4</sub> are MP Agreement, and P<sub>2</sub> and P<sub>3</sub> produce MP clitics. But this does  
5497 not follow from anything; since these probes are distinct, they could be grouped in any  
5498 other way for the purposes of how their  $\varphi$  elements are realized. Put differently, there is  
5499 no connection on this account between probe locus and form– something that follows on  
5500 our account from the way in which MP Agreement or Clitic form is determined by a case  
5501 feature that is also referred to by probes.

5502 On this latter point– and concerning the MP clitic realizations in particular– one type of  
5503 evidence that would provide evidence for probe reversal concerns clitic placement. Reversal  
5504 of the probe might lead us to expect a difference in the positioning of clitic hosts: at least,  
5505 if there were differences in clitic placement in the imperfective and perfective, the probe  
5506 reversal account would have a straightforward explanation for it, since the probes in the  
5507 two aspects are in different positions. However, there is no evidence of this type: in both  
5508 aspects clitic placement functions in the same way.

5509 Moving ahead, there are stronger arguments against something like (52), and they have  
5510 been encountered before. In particular, reversing probes makes it difficult to explain the  
5511 behavior of intransitives in a language like Sorani, which are uniformly indexed with MP  
5512 Agreement. On a probe reversal account, the expectation is that the probe finding the Sub-  
5513 ject of transitives should be the same way that finds the Subject of an intransitive: it is  
5514 therefore predicted that intransitive Subjects in the perfective should be in agreement with  
5515 P<sub>2</sub> (or P<sub>3</sub>) and be indexed with an MP Clitic; and this is not the case.<sup>26</sup> As noted earlier  
5516 in this chapter, possible fixes to this kind of problem that we have conceived of– e.g. mak-  
5517 ing the probe structure sensitive to transitivity– are tantamount to introducing case into the  
5518 picture.

5519 **Manipulating argument height** The second option to consider involves identical probe  
5520 structure in the two aspects, but manipulates the relative height of arguments to produce the

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<sup>26</sup>Along similar lines, it is also difficult for such an account to explain is the aspect-insensitive indexation seen in the *want*-type of verb and in IO passives.

5521 alignment split. The key idea here is to have the Subject higher than the DO in one aspect,  
 5522 but the reverse configuration in the other.

5523 Before getting into the details of the probes, it bears emphasizing that the Subject is  
 5524 clearly higher than the DO on the surface. This has been shown in various parts of the book,  
 5525 thus we illustrate it here only with two phenomena which are sensitive to the c-command  
 5526 relation. In (54), the subject binds the anaphor DO in both the imperfective and perfective  
 5527 aspects.

5528 (54) a. eme xo=man de-bîn-în.  
 1PL.pro self=1PL.CL IND-see.PRS-1PL

5529 ‘We see ourselves.’

5530 b. eme xo=man=**man** bînî.  
 1PL.pro self=1PL.CL=1PL.CL see.PST

5531 ‘We saw ourselves.’

5532 Weak Crossover (WCO) can also be used to demonstrate that unless the DO is passivized  
 5533 over, as such establishes a new binding relation permitting bound-variable interpretation, the  
 5534 subject is structurally higher than the DO. Crucially this pattern also holds in both aspects.  
 5535 Consider (55)-(56).

5536 (55) a. dayk=î hemu qutabiy-êk de-bîn-ê(t).  
 mother=3SG.CL every student-a IND-see.PRS-3SG

5537 ‘His<sub>k/\*i</sub> mother sees every student<sub>i</sub>.’

5538 b. hemu qutabiy-êk de-bîn-rê(t) le layen  
 every student-a IND-see.PRS-PASS.PRS.3SG from side

5539 dayk=î=yewe.

mother=3SG.CL-ITER

5540 ‘Every student<sub>i</sub> is seen by his<sub>i/k</sub> mother.’

5541 (56) a. dayk=î hemu qutabiy-êk=î bînî.  
 mother=3SG.CL every student-a=3SG.CL see.PST

5542 ‘His<sub>k/\*i</sub> mother saw every student<sub>i</sub>.’

5543 b. hemu qutabiy-êk bîn-ra le layen dayk=î=yewe.  
 every student-a see.PRS-PASS.PST from side mother=3SG.CL-ITER

5544 ‘Every student<sub>i</sub> was seen by his<sub>i/k</sub> mother.’

5545 Other observations point to the same conclusion, viz. that there is no evidence for DO  
 5546 being higher in the perfective than it is in the imperfective (or vice versa). As shown in  
 5547 Chapter 3, there is evidence from pseudo-incorporation that object DPs move out of the VP  
 5548 domain, yet we are not aware of any evidence in Sorani that would suggest that the moved  
 5549 DPs occupy distinct positions depending on aspect. One might expect that if the DO was  
 5550 higher in one aspect than it is in the other, then it would be outside of whatever the domain

5551 is be a viable clitic host; yet this is not correct. DOs are licit clitic hosts in both aspects  
5552 under the right conditions.

5553 The upshot of these observations is that a manipulation of argument-height must appeal  
5554 to an intermediate derivational stage when MS operations apply. Assuming for the sake of  
5555 argument that the ‘reversal’ takes place in the perfective, the account at hand is as in (57):

5556 (57) Manipulating argument height

5557 When probes  $P_1$  (“Direct”) and  $P_2$  (“Oblique”) apply...

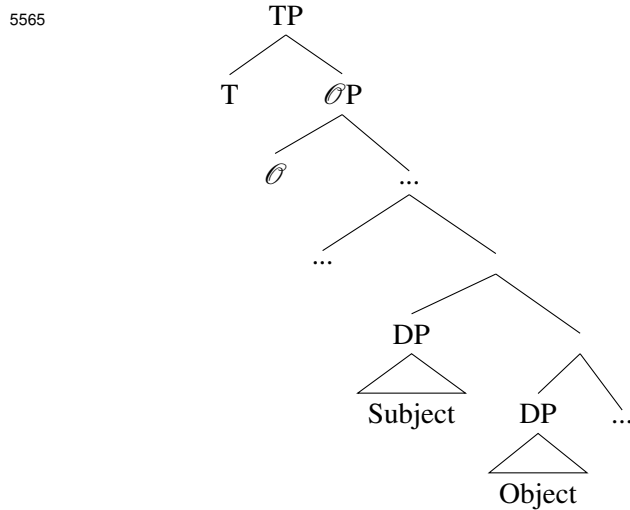
5558 a. IMPERFECTIVE:  $S > DO$ ;  $P_1$  finds the Subject, and  $P_2$  the Direct Object.

5559 b. PERFECTIVE:  $DO > S$ ;  $P_1$  finds the Direct Object, and  $P_2$  the Subject.

5560 To be more precise; and thinking about this in terms of T and  $\theta$ , so that it is as similar  
5561 to our account as possible up to case targeting (showing all heads on the left for expository  
5562 purposes):

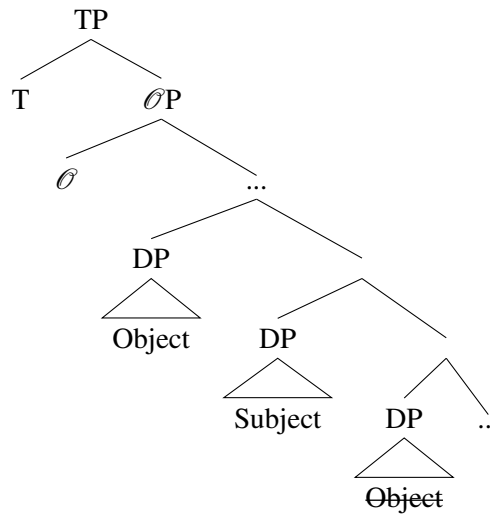
5563 (58) Schematization of (57)

5564 a. imperfective



5566 b. perfective

5567



5568 Mechanically, it has to be assumed first, that probes apply in a sequence– in this case,  
 5569 with T preceding Ø; and second, that a goal that has already been probed is invisible for  
 5570 subsequent probing:

5571 (59) Assumptions

- 5572 a. Probes apply sequentially; in this scenario, T probes before Ø.
- 5573 b. A goal that has been probed becomes inactive for later probes.

5574 With these assumptions it is then possible to say that T finds the Subject in the im-  
 5575 perfective, with the subsequently probing Ø locating the Direct Object. In the perfective,  
 5576 movement of the DO produces the opposite results: T finds the DO, while Ø finds the  
 5577 Subject. Note that in both aspects Ø ignores a higher argument; this is where the second  
 5578 assumption in (59) plays a role.

5579 The general principle at play in this analysis is stated in (60), where the qualification to  
 5580 *active* encodes the further assumption that arguments that have been found by a probe are  
 5581 invisible for subsequent probing:

5582 (60) Probes apply MS Operations to the highest active argument in their search domain.

5583 The reference to *MS Operations* is due to the fact that this analysis encounters difficulties  
 5584 when the distinction between MS Agreement and MS Clitic Movement is taken into ac-  
 5585 count. We will look at these difficulties below, after first reviewing some advantages that  
 5586 this approach has over probe reversal.

5587 At a certain level of abstraction, this account has some successes. For example, an  
 5588 account of this type can avoid the difficulties linking probes and form that affected the  
 5589 probe reversal approach. Both P<sub>1</sub> and P<sub>2</sub> can be specified with probes for MS Agreement  
 5590 and MS Clitic Movement, with P<sub>1</sub> determining realization as MP Agreement, and P<sub>2</sub> MP  
 5591 Clitic form. Manipulating argument height also avoids the difficulties with intransitives

5592 that we discussed above with reference to probe reversal. Since it generates the alignment  
5593 difference through an interaction between the Subject and the Direct Object, it predicts that  
5594 intransitives should behave the same in both aspects.<sup>27</sup>

5595 The kinds of difficulties that confront this approach become clear when we try to be  
5596 more precise about probe structure than vague (60). The key question is how to distinguish  
5597 MS Agreement from MS Clitic Movement. Allowing reference to pronouns with a feature  
5598 [+m], which we used in Chapter 5 to single out those arguments that move as clitics, is part  
5599 of the picture. In order to function properly it has to further be assumed that Subjects are  
5600 never [+m] clitics. It is then possible to restate (60) as follows:

- 5601 (61) Probes target the highest active argument in their domain and  
5602 a. MS Clitic Move it, if it is [+m];  
5603 b. MS Agree with it otherwise.

5604 This is equivalent to saying (as we did on our account) that T and  $\mathcal{O}$  each possess two  
5605 probes. Unlike our account, though, the one under consideration has problems with what  
5606 could be termed *probe overapplication*. To see this, consider first a type of example that  
5607 works well for it: transitive clauses in which the Subject is a full DP and the Direct Object  
5608 is a moving clitic. In the imperfective, T will (by (61)) MS Agree with the Subject, and  
5609  $\mathcal{O}$  will Clitic Move the pronoun. In the perfective, the Direct Object is local to T, which  
5610 MS Clitic Moves it; the highest active argument in  $\mathcal{O}$ 's domain is the Subject, which it MS  
5611 Agrees with.

5612 Consider now a scenario in which the Direct Object is **not** an [+m] clitic. In the imper-  
5613 fective, T will agree with the Subject, as in the scenario just considered. But  $\mathcal{O}$ 's probing  
5614 creates a problem– the MS Agreement probe on this head should locate the Direct Object as  
5615 the highest active argument in its domain, and agree with it. But this does not happen. Per-  
5616 fective clauses generate the same problem for T. The probe on this head should MS Agree  
5617 with the highest argument in its domain, which is the Direct Object; again, this is not what  
5618 is found.<sup>28</sup>

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<sup>27</sup>For the *want*-class, this kind of account could hold that there is the movement schematized in (57b) applies in both aspects, not just in the perfective. It is not clear, though, that this account could be extended to intransitives with Ergative Subject in both aspects (recall ‘be cold’ from Chapter 5).

<sup>28</sup>One conceivable fix here actually produces a different kind of account. This would be to hold that there is only a single active Agreement probe per clause, and use the aspectual split to determine which of T or  $\mathcal{O}$  possesses it. This is a possible move, but it is not an ‘argument height’ approach any more. By this we mean that if there is only one active agreement probe per clause, then it is not necessary to move the DO over the Subject to produce the difference between MP Agreement and MP Clitic indexation. Rather, Agreement is always with the Subject, which is always highest; the form taken by the  $\varphi$  indexer depends on whether the probe is on T or  $\mathcal{O}$ .

While able to account for the basic data concerning intransitive and transitive clauses, this alternative is problematic when further phenomena are considered. For example, it has no way to account for the aspect insensitivity of (what for us is) Ergative agreement in the *want*-class and in IO passives. In the imperfectives of these T should bear the agreement probe, and produce an MP Agreement morpheme, contrary to fact. This account also rules out clauses with double agreement, which (though optional) we have found with both clausal possession and IO passives.

5619 To summarize, it is conceivable that further manipulations of probe structure might  
5620 produce different results than those we have seen above. In our view, the Sorani system  
5621 requires an analysis in which case features play a central role. While different variations on  
5622 this idea could be investigated, we do not see at present how an analysis that does not refer  
5623 to case can cover the full range of facts that we have analyzed.

### 5624 6.3 Alternatives to MS/MP mismatching

5625 A major theme of this book is that our approach allows MS Operations to be indirectly  
5626 related to their MP realization. As we noted in section 1, this is something that has been  
5627 argued for in different ways in different parts of the literature.

5628 The position we argued against is the *direct* view, stated in (62):

5629 (62) Direct MS/MP relations

- 5630 a. Clitic-movement applies to  $\varphi \Rightarrow \varphi$  is realized as an MP *clitic*;  
5631 b. Agreement operation produces  $\varphi \Rightarrow \varphi$  is realized as an MP *agreement affix*.

5632 In this section we consider different possible ways of saving the direct view in (62),  
5633 and show why the move to an indirect view is required. Recall that a consequence of our  
5634 analysis is that Sorani exhibits two kinds of MS/MP mismatch:

- 5635 • **Mismatch 1** Our analysis holds that MS Clitic Movement attaches [-subj,-obl] pro-  
5636 nouns to Tense, where they are realized as MP Agreement morphemes.
- 5637 • **Mismatch 2** Our analysis holds that an MS Agreement probe on  $\emptyset$  targets [+obl,+subj]  
5638 arguments, and realizes their features as MP Clitics.

5639 If the  $\varphi$  elements in Mismatch 1 were the result of an MS Agreement operation, there  
5640 would be no MS/MP mismatch. By the same token, if the  $\varphi$  elements in Mismatch 2 were  
5641 actually MS clitics rather than the result of MS agreement, there would be no MS/MP  
5642 mismatch.

5643 The two alternatives examined in this section provide ways of exploring the conse-  
5644 quences maintaining MS/MP. For Mismatch 1, it is possible that what we treat as MS Clitic  
5645 Movement being realized as an MP agreement affix could be analyzed as MS Agreement  
5646 with an obligatorily null pronominal (cf. [Taghipour and Kahnemuyipour 2021](#); [Nabors et al. 2019](#)).  
5647 Second, for Mismatch 2, what we treat as MS Agreement being realized with an MP  
5648 Clitic could instead be *Clitic Doubling*.

5649 We demonstrate that the facts of Sorani are better treated in the way that we have devel-  
5650 oped in this book, rather than with one of these alternatives. After looking at these alterna-  
5651 tives in sections 6.3.1 and 6.3.2, we present some general conclusions concerning MS/MP  
5652 connections in 6.3.3.



5653 **6.3.1 Agreement only with null arguments**

5654 The analysis developed in earlier chapters of this book takes the complementary distribution  
5655 of DO/IO arguments and corresponding MP Agreement elements as an indication that the  
5656 latter are MS Clitics. In this section, we entertain an alternative approach to this comple-  
5657 mentarity. The type of analysis that we have in mind holds that MS Agreement takes place  
5658 with DOs and P-arguments, but only when these are null pronominals. This kind of analysis  
5659 has been proposed in the literature on Celtic, where strong pronouns (or full DPs) and sub-  
5660 ject agreement do not cooccur (e.g., Joutteau and Rezac 2006 for Breton and McCloskey  
5661 and Hale 1984 for Irish). One type of analysis given for such patterns involves treating overt  
5662 *agreement as occurring only with null arguments*– what we will abbreviate as ANA.<sup>29</sup>

5663 As it turns out, the ANA view has been posited for SSK as well in Nabors et al. 2019  
5664 for SSK; see also Kahnemuyipour and Taghipour 2020 for an application to Laki.<sup>30</sup> The  
5665 main motivation for the ANA hypothesis in Iranian languages is centered on direct MS/MP  
5666 relations:  $\varphi$ -features of the arguments in question are realized as MP agreement  
5667 suffixes, in terms of form and position. These  $\varphi$  elements are moreover identical to those  
5668 found for agreement with Nominative Subjects. Why not then treat DO and P-Argument  
5669 MP Agreement as the result of MS Agreement?

5670 In answering this question, we will both review what we have proposed in previous  
5671 chapters, and show how our proposals are able to account for the relevant facts in ways that  
5672 go beyond what can be done with ANA. To be clear about the nature of the comparison to  
5673 come, we will consider an analysis that is different from ours only in positing MS Agree-  
5674 ment with null DOs and P-Arguments rather than MS Clitic Movement. We will allow this  
5675 alternative to make use of other components that we have motivated in our analysis, such  
5676 as the idea that MS operations may be Case Targeting, as this allows for a direct focus

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<sup>29</sup>Other ANA analyses include McCloskey and Hale 1984, Stump 1984, and Legate 1999. Note that ANA is only one kind of analysis of this effect in the literature on Celtic languages. A salient alternative involves incorporation of the deficient pronoun into the verb (Anderson 1982, Ackema and Neeleman 2003) or preposition (Brennan 2009). It is not clear at this point which type of analysis is correct.

It is also worth noting that in many languages which have the same pattern of complementarity between the DO and its indexer (including the cases of external possession and P-arguments), this is taken to be the result of pronoun incorporation; see e.g., Arregi and Hanink 2022 on Washo and Yuan 2018 on Aleut.

<sup>30</sup>Haig (2008) provides a proposal that is potentially a version of ANA. Referring to examples like (i) in which the possessor is realized as MP agreement, Haig (2008:297) hypothesizes that it is “likely that there is no exponent of the O-past; rather the indirect participant is expressed through a Set 2 suffix, affixing directly to the verb”. Abstracting away from the terminology, this suggestion amounts to a non-movement analysis, whereby the possessor or the P-argument (*the indexer of the indirect participant* in Haig’s terms) is generated on the verb.

- (i) Otombel-aka=**yan** bird-*în*  
car-the=3PL.CL took-1PL  
‘They took our car away.’

Besides the issue of how the agreement marker would relate to the preposition it is semantically associated with, this analysis also would face similar issues mentioned above. Among others, it would fall short of explaining why this is not possible with intransitives or passives as we saw in Chapter 5 (see particularly (40), (43) and others in Chapter 5).

5677 on the contrast that is at issue. We will also grant that the null arguments targeted by MS  
 5678 Agreement have features that distinguish them from other arguments (our [+m]).<sup>31</sup>

5679 With these assumptions at hand, we will now examine several different ways in which  
 5680 our mismatch-inducing analysis can be compared with the ANA approach.

5681 **(Non)complementarity and multiple versus single application** The complementarity  
 5682 that is produced by ANA must be restricted: it is found with DOs and P-arguments, but not  
 5683 subjects. Thinking about how this observation relates to the broader motivation for ANA  
 5684 is instructive. On the face of it, ANA looks like it is able to maintain a kind of unity of  
 5685 process: it says that there is a single MS Agreement operation that produces MP Agreement  
 5686  $\varphi$  bundles.

5687 However, while this analysis unifies how MS and MP are connected, a closer look re-  
 5688 veals that MS Agreement probing must be **non**-uniform for the exclusively MS part of the  
 5689 equation. As we have seen, Subjects stand out from all other arguments in terms of com-  
 5690 plementarity; they alone co-occur with a  $\varphi$  indexer. This kind of sensitivity can be encoded  
 5691 in terms of case properties. As seen in (63), the result is that T must possess two distinct  
 5692 probes:

5693 (63) Probes required on T (ANA analysis)

---

<sup>31</sup>As noted earlier, our focus shifts emphasis away from the question of why exactly MS Agreement with DOs and P-arguments should be sensitive to phonological overtiness of the goal, which is a separate question. The analysis of Laki in *Kahnemuyipour and Taghipour 2020* relies on the form of the indexer being MP Agreement in Laki (which also holds in SSK), and tries to reduce the obligatory nullness of the pronoun to a ‘clitic cluster restriction’: one which prevents them from being realized on an element that already hosts another MP clitic. Since there will always be a clitic on the host– viz. the one indexing the Ergative subject– this stipulation ensures that agreeing pronouns must be null.

These reductions appear to be problematic on more than one front. For one, in GK, the indexer is realized as MP clitic. Secondly, this kind of condition on clitic-cluster appears to be incorrect as it stands: as we saw at various points in preceding chapters, multiple MP clitics can indeed be realized on a single host in both GK and SSK, the latter being identical to Laki in all relevant respects.

- (i) a. ême bîñî=**yan=man**  
 1 PL.pro see.PST=3 PL.CL=1 PL.CL  
 ‘We saw them.’  
 b. Otomobel-eke=**man=yan** bird  
 car-the=1 PL.CL=3 PL.CL took  
 ‘They took our car away.’ (GK)
- (ii) pê=**man=î** dâ-*n*.  
 to=1 PL.CL=3 SG.CL gave-3 PL  
 ‘S/he gave them to us.’ (SSK; *Samvelian 2008:47a*)

The premise that an overt pronoun would be realized in clitic position in the first place is also suspect– this position is restricted to elements with a [+obl] case.

Finally, nothing about this account explains why there could not be agreement with an overt full DP Direct Object, or the argument of a preposition; this is expected to be possible, as these elements do not appear in the clitic cluster.

- 5694 a. One that targets Nominative Subjects, irrespective of their form (DP, pronoun,  
5695 *pro*); and  
5696 b. another that targets Objective DOs and P-arguments, but only if they are null.

5697 There is nothing inherently undesirable about positing two probes on a head. It is part  
5698 of our analysis, where each of T and  $\mathcal{O}$  possess probes for MS Agreement and MS Clitic  
5699 Movement. Rather, the point to be noted about (63) is that it precludes the account from  
5700 capturing further generalizations in the indexation system.

5701 To see this, consider a further aspect of Sorani, which concerns *multiple application*;  
5702 whether an MS operation applies once, or can apply to multiple elements. In our approach,  
5703 a natural distinction is that Agreement occurs only once per head with either T or  $\mathcal{O}$ , but  
5704 multiple clitic movements may be triggered by the same head by either of these heads:

5705 (64) Generalizations about Sorani probes (our account)

- 5706 a. MS Agreement probes: Apply only once– whether targeting Nominative or  
5707 Ergative.  
5708 b. MS Clitic probes: Apply in principle to more than one argument.

5709 The second clause in each statement highlights the symmetry of the system: MS Agreement  
5710 and MS Clitic Movement do the same things in both halves of the indexation split. The  
5711 connection to complementarity is immediate; it is established by (65):

- 5712 (65) a. Overt DP arguments always co-occur with subject indexers.  
5713  $\Rightarrow$  Subject  $\varphi$  indexers are the product of MS Agreement.  
5714 b. DO/IO indexers never co-occur with an overt DP argument.  
5715  $\Rightarrow$  DO/IO  $\varphi$  indexers are MS clitic pronouns.

5716 That is, MS Clitic Movement, which can apply more than once, applies to pronouns which  
5717 are by definition complementary in the required way.

5718 These connections are lost in the ANA-based analysis. To produce the correct results, a  
5719 clause must be added to (63) to take into account multiple application:

5720 (66) Probes required on T (Modified ANA analysis)

- 5721 a. One that targets Nominative Subjects, irrespective of their form (DP, pronoun,  
5722 *pro*); and  
5723 b. another that targets Objective DOs and P-arguments, but only if they are null;  
5724 *this probe may apply multiple times.*

5725 The added condition does not follow from anything in the approach. But this stipulation  
5726 is not the main point of concern. The larger observation concerns what this account could  
5727 say in the place of (64), which generalizes across both aspects. Focusing in particular on  
5728 multiple application, what is required is (67):

- 5729 (67) a. A probe on T targets Objective DOs and P-arguments, but only if they are null;  
 5730 this probe may apply multiple times.  
 5731 b. Multiple clitic movements can happen in a given clause.

5732 Unlike (64), there is nothing in (67) that links the two clauses. That is, our account directly  
 5733 connects the fact that it is the indexers that are complementary with overt arguments that  
 5734 are involved in an MS operation that occurs more than once. The ANA alternative is not  
 5735 able to state this correlation directly. Instead, it splits the statements of multiple application,  
 5736 so that the properties that cluster together (complementarity and multiple application) do so  
 5737 only by stipulation.

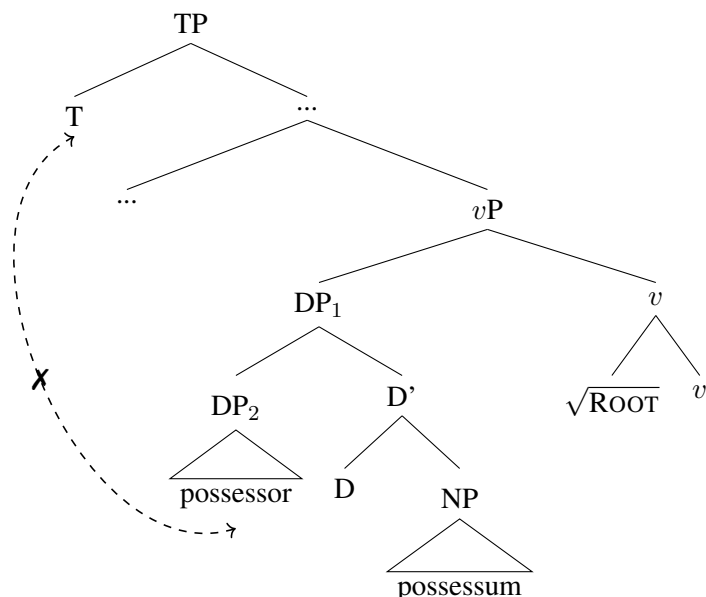
5738 **P-arguments and locality** Our analysis of external possession in Chapter 5 holds that  
 5739 possessors can be MS Clitic Moved out of possessed DPs under certain circumstances,  
 5740 (68). The arguments of prepositions can also be moved in this way, (69):

- 5741 (68) a. Otombel-aka=**man** de-be-*n*  
 car-the=1PL.CL IND-take.PRS-PL  
 5742 ‘They take our car away.’  
 5743 b. Otombel-aka=**yan** bird-**în**  
 car-the=3PL.CL take.PST-1PL  
 5744 ‘They took our car away.’ (SSK)
- 5745 (69) a. ew ême=**y** bo=**yan** nard  
 s/he us=3SG.CL to=3PL.CL send.PST  
 5746 ‘S/he sent us to them.’  
 5747 b. ew ême=**y** bo nard-**în**  
 s/he us=3SG.CL to send.PST-3PL  
 5748 ‘S/he sent us to them.’ (SSK)

5749 As we demonstrated, treating external possession as movement in this ways allowed  
 5750 us to make direct connections with the analysis of possessor raising in other languages.  
 5751 Within Iranian languages similar to Sorani, we showed in §5.6.1 that the type of syntactic  
 5752 and semantic variation found in closely related varieties (Standard Laki vs Aleshtar Laki)  
 5753 parallels neatly the range of variation found in the possessor raising literature.

5754 At least the first of these types of example (and possibly the second) provides a fur-  
 5755 ther argument against ANA. An ANA approach is forced to analyze examples like (70)  
 5756 with T’s probe finding a DP-internal null pronominal; schematically (with T on the left for  
 5757 exposition):

5758 (70)



5759 This analysis raises serious questions about locality. If it is correct, the probe on T must  
 5760 be able to target a possessor that is contained inside of another DP. This type of non-local  
 5761 agreement does not appear to be attested in the literature, suggesting that (71) holds:

5762 (71) POSSESSOR AGREEMENT GENERALIZATION: Probes external to DP<sub>1</sub> cannot ac-  
 5763 cess DP<sub>2</sub> contained within DP<sub>1</sub>.

5764 This generalization can be made to follow from different ways of formalizing Agree. For  
 5765 our purposes, what is important is demonstrating that (i) there are apparent counterexamples  
 5766 to (71), but (ii) these can be shown on closer examination to involve only local probe-goal  
 5767 relations. Crucially, external possessor in Sorani does not have any of the properties to  
 5768 suggest that it is a language of this type.

5769 Examples that appear to go against (71) have been reported for Maithili (Indo-Aryan;  
 5770 Alam and Kumaran 2021) or Nez Perce (Deal 2010) (see also Polinsky and Potsdam (2001)  
 5771 for the same property in cross-CP agreement). An example from Maithili is given in (72):

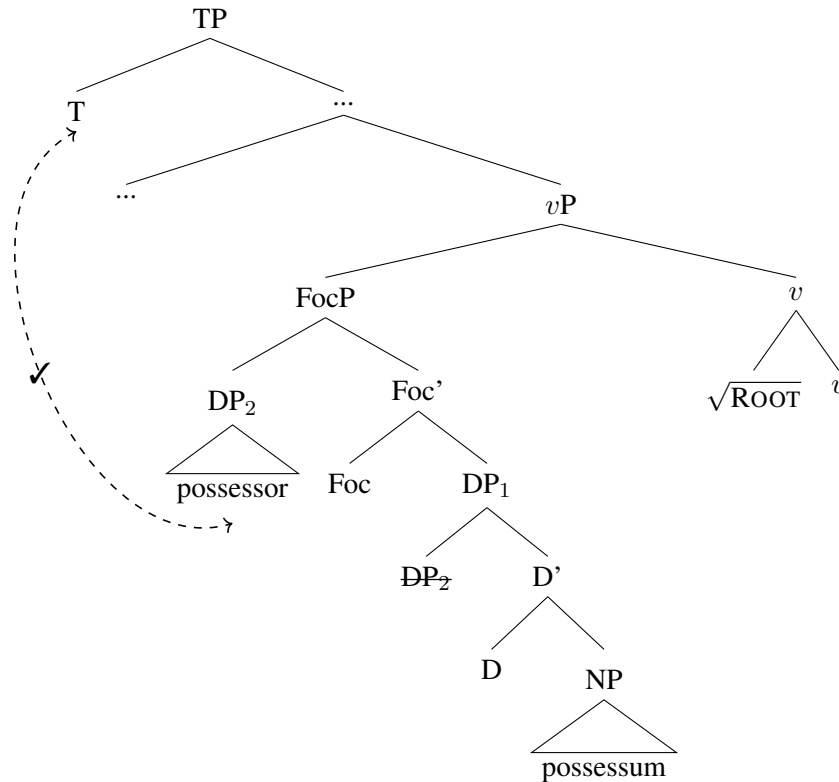
5772 (72) tohər nokə æ -l -əu  
 2L.GEN servant come -PAST 2L.NN  
 5773 ‘Your servant came.’ (Alam and Kumaran 2021:20)

5774 In this example, the verb shows agreement with *your*, which is taken to originate inside the  
 5775 DP *servant*. Alam and Kumaran (2021) argue that in examples of this type, the possessor  
 5776 can agree with the verb only after it undergoes overt focus-driven movement to the phase  
 5777 edge. For them, this involves the possessor moving to the specifier of a Focus head that  
 5778 takes the DP as its complement.

5779 This movement is detectable when overt demonstratives are present: when the posses-  
 5780 sor follows the demonstrative, it is unavailable for agreement; when it precedes it, it is

5781 visible to Agree. Thus, this would look schematically as (73) in comparison to (70), where  
 5782 strikethrough is used for the lower copy of DP (glossing over Maithili-internal properties).

5783 (73)



5784 Possessor indexation in Sorani shows none of the properties that might be expected if it  
 5785 were the result of T agreeing with a focused pronominal. To start with, the putatively agreed-  
 5786 with pronoun is obligatorily null, which would be (to say the least) an unlikely element to  
 5787 bear focus. As noted in chapter 5.1 (see also fn. 34), when the possessor is focalized, it is  
 5788 realized as an independent pronoun, with the possessee bearing an Ezafe marker. Moreover,  
 5789 nominals do not have a structure in which the focalized possessor moves out of the phrase  
 5790 (recall chapter 5.6.2, particularly the structure in (127)). Crucially all this action involving  
 5791 the Ezafe construction takes place within the DP with no movement of the possessor, unlike  
 5792 Maithili. If Sorani Kurdish had possessor agreement, it is in this situation that one would  
 5793 expect agreement, i.e., co-occur with an MP-Agr on the verb. However, this is not what  
 5794 happens as shown in earlier chapters.

5795 ANA also requires the T Probe to agree with the null argument of a preposition. Here  
 5796 again there is a question about the locality of the probe/goal relation. Maithili also proves  
 5797 instructive on this point. It allows the arguments of prepositions to be agreed with, but once  
 5798 again only if they are focussed.<sup>32</sup> As in the case of possession, an ANA account is faced

<sup>32</sup>Messick et al. 2022 presents a similar derivation for case-copying reflexives or P-wrapping reciprocals

5799 with the challenge of motivating an analysis of Sorani in which only null pronouns can  
 5800 be focused in a particular context; or it has to abandon (71). The nature of these options  
 5801 indicates to us that ANA is on the wrong track.

5802 **Clitic Left Dislocation** A look at Clitic Left Dislocation (CLLD) also provides support  
 5803 for the current account, and against an ANA approach. Put simply, the CLLD behavior in  
 5804 Sorani makes sense if MP Agreement is an MS clitic, but is puzzling under ANA, which  
 5805 requires CLLD to be linked to a **null** pronoun.

5806 Recall that  $\varphi$  elements in Sorani can resume a topicalized/CLLDed object that is in the  
 5807 left periphery, in the form of an MP clitic, (74a), or MP agreement, (74b).. On the other  
 5808 hand, in GK, this indexer that resumes a CLLDed object in both aspects in the form of  
 5809 an MP clitic, (74a) and (74c). This behavior is unremarkable in light of the crosslinguistic  
 5810 behavior and analysis of CLLD, with the only difference being that in SSK, the resumptive  
 5811 pronoun is sometimes realized in the form of an MP-Agreement.

5812 (74) CLLD with DOs

- 5813 a. kitêb-ek-an, (min) hemu roj-êk de=**yan** xwên-im.  
 book-the-PL 1PL.pro every day-a IND=3SG.CL read.PRS-1SG  
 5814 ‘The books, I read them every day.’ (SSK/GK)
- 5815 b. kitêb-ek-an, (min) dwene xwênd-in=im.  
 book-the-PL 1PL.pro yesterday read.PST-3PL-1SG.CL  
 5816 ‘The books, I read them yesterday.’ (SSK)
- 5817 c. kitêb-ek-an, (min) dwene xwênd=**yan**=im.  
 book-the-PL 1SG.pro yesterday read.PST-3PL.CL-1SG.CL  
 5818 ‘The books, I read them yesterday.’<sup>33</sup> (GK)

5819 As expected from CLLD, arguments of prepositions and possessors can also resume  
 5820 a topicalized element, similar to the behavior of DO indexers. This is illustrated for P-  
 5821 arguments and possessors in (74) and (75), respectively.

5822 (74) CLLD with P-arguments

- 5823 a. minal-ek-an, ew ême=y bo=**yan** nard  
 child-DEF-PL s/he us=3SG.CL to=3PL.CL sent  
 5824 ‘The children, s/he sent us to them.’

(i.e., configurations in which parts of a reciprocal wrap around a preposition). For example, in P-wrapping reciprocals, part of the reciprocal moves to the edge of PP where it probes for case features. What these constructions have in common is that for an otherwise inaccessible goal to be visible to a probe, the goal is needs to undergo movement of some type, which lacks in the Sorani context.

<sup>33</sup>In this regard, GK is similar to Persian in which a topicalized object is also resumed via a pronominal clitic on the predicate.

- (i) un ketâb-ro, man be Kimea dâd-am=**esh**.  
 that book-RÂ I to Kimea give.PST-1SG=3SG.CL  
 ‘As for that book, I gave it to Kimea.’ (Karimi 2005:82,(31a))

- 5825 b. minal-ek-an, ew ême=y bo nard-*in*  
 child-DEF-PL s/he us=3SG.CL to sent-3PL  
 5826 ‘The children, s/he sent us to them.’ (SSK)
- 5827 (75) CLLD with Possessors
- 5828 a. minal-ek-an, to name-k-an=**it** bird-*in*.  
 child-DEF-PL 2SG.pro letter-the-PL=2SG.CL took-3PL  
 5829 ‘The children, you.sg took away their letters.’ (SSK)
- 5830 b. minal-ek-an, to name-k-an=**yan**=it bird.  
 child-DEF-PL 2SG.pro letter-the-PL=3PL.CL=2SG.CL took  
 5831 ‘The children, you.sg took away their letters.’ (GK)

5832 Furthermore, both forms of the object indexers – MP agreement in SSK and MP clitic  
 5833 in Garmiani – alternate with strong pronouns in focus contexts and coordination. This is  
 5834 also a natural behavior of pronouns.<sup>34</sup>

- 5835 (76) a. ême bînî=**man**-*in*  
 1 PL.pro see.PST=1 PL.CL-2 PL  
 5836 ‘We saw you.pl.’ (SSK)
- 5837 b. ême bînî=**tan**=man  
 1 PL.pro see.PST=2 PL.CL=1 PL.CL  
 5838 ‘We saw you.pl.’ (GK)
- 5839 c. focusing
- 5840 ême êwe=**man** bînî  
 1 PL.pro you.pl=1 PL.CL see.PST  
 5841 ‘We saw YOU.PL (not someone else).’ (SSK/GK)
- 5842 d. coordination
- 5843 ême [ewan u êwe]=**man** bînî  
 1 PL.pro [them and you.pl]=1 PL.CL see.PST  
 5844 ‘We saw them and you.pl.’ (SSK/GK)

5845 This behavior is in accordance with the patterns of weak/strong pronouns in languages  
 5846 that have them (see e.g., Kayne 1975; Cardinaletti and Starke 1999; Pescarini 2021). For  
 5847 example, in Hijazi Arabic, a pronominal object is typically realized in the weak, bound  
 5848 form, (77a), unless the object is used contrastively, (77b), or in a coordinate structure (in  
 5849 broad focus), (77c).

<sup>34</sup>The same alternation is observed in possessive constructions as well. A pronominal possessor is normally realized as the MP clitic form, unless it is (contrastively) focused or emphasized. See e.g. Öpengin (2016:211) for the same observation, who notes: “A pragmatically neutral clause is probably always marked for its possessor by a clitic PM. But in a context where the possessor is focused, in contrast to other preceding candidates, the possessor is expressed by an independent pronoun (usually a weak form) while a clitic PM in this context would not be acceptable.”



- 5850 (77) Hijazi Arabic  
 5851 a. ?ana shuf-ta-ha.  
 1 SG.pro saw-1 SG-her  
 5852 'I saw her.'  
 5853 b. BASS HIYYA, ?ana shuf-t.  
 only her 1 SG.pro saw-1 SG  
 5854 'I saw ONLY HER (not him).'
- 5855 c. (?) ?ana shuf-t hiyya w huwwa.  
 1 SG.pro saw-1 SG her and him  
 5856 'I saw her and him.'

5857 Note that an attempt to coordinate two weak pronominal clitics, as well as one pronom-  
 5858 inal clitic and one strong pronoun in any configuration, is disallowed in both Arabic, (78),  
 5859 and Kurdish, (79).

- 5860 (78) Hijazi Arabic  
 5861 a. \*?ana shuf-ta-ha w-uh.  
 1 SG.pro saw-1 SG-her and-him  
 5862 'I saw her and him.'  
 5863 b. \*?ana shuf-ta-ha wa huwwa.  
 1 SG.pro saw-1 SG-her and him  
 5864 'I saw her and him.'

- 5865 (79) Sorani Kurdish  
 5866 a. can't coordinate two clitics  
 5867 \*ême bînî=tan=man u=yan=(man)  
 1 PL.pro see.PST=2PL.CL=1 PL.CL and=3PL.CL=1 PL.CL  
 5868 Intended: 'We saw you.pl and them.'  
 5869 b. can't coordinate a full pronoun and a clitic pronoun object  
 5870 \*ême ewan u bînî=tan=man  
 1 PL.pro them and see.PST=2PL.CL=1 PL.CL  
 5871 Intended: 'We saw them and you.pl.'

5872 In short, MP Agreement in Sorani behaves like a typical pronoun for the purposes of  
 5873 Clitic Left Dislocation. ANA requires this phenomenon to pair a topic with a null pronom-  
 5874 inal, something that we have not seen cross-linguistically.

5875 \* \* \*

5876 As we have shown above, ANA is a possible analysis of the Sorani system, but it turns  
 5877 out to fall short in several important ways. As far as we can tell, its only motivation is the  
 5878 desire to maintain direct MS/MP connections. As we will now see, the situation is similar  
 5879 for an alternative to the other mismatch that we posit.

5880 **6.3.2 “Clitic Doubling”**

5881 As we noted at the beginning of this section, the alternative under consideration– viz., that  
5882 there are only direct MS/MP relations in Sorani– has two components. Having looked first at  
5883 the mismatch involving MP Agreement, we now examine a possible way of eliminating the  
5884 second mismatch, which says that MS Agreement produces an MP Clitic. This alternative  
5885 holds that the MP clitic that indexes the Subject in past transitive clauses is an MS Clitic  
5886 involved in *Clitic doubling*.

5887 The discussion of this section produces less conclusive evidence against this alternative  
5888 than there is in the case of ANA, which we believe to be problematic for the reasons ad-  
5889 vanced above. We will see that there is essentially no positive evidence in favor of the Clitic  
5890 doubling view; moreover, to the extent that there are clear diagnostics and cross-linguistic  
5891 generalizations to be applied and appealed to, the relevant indexer does not look like what  
5892 is typically found with Clitic doubling.

5893 Clitic doubling has been analyzed in a number of different languages; see e.g. Uriagereka  
5894 1995; Anagnostopoulou 2006; Nevins 2011; Harizanov 2014; Kramer 2014). It is likely that  
5895 this term is a descriptive label for what are actually distinct phenomena, involving (at the  
5896 least) something like MS Agreement in some languages, and MS Clitic Movement in others  
5897 (see e.g., Preminger 2009; Baker and Kramer 2018; Yuan 2021 for attempts to make this  
5898 distinction precise).

5899 For our purposes, what is important is that the alternative must treat the MP clitic as an  
5900 MS Clitic that is moved syntactically. Given the facts of Sorani concerning how Subjects are  
5901 indexed in comparison with other types of arguments, what this amounts to is summarized  
5902 in (80):

- 5903 (80) MS Clitic Movement (alternative view)
- 5904 a. The syntax of Ergative subjects obligatorily involves a clitic double that is MS  
5905 Clitic Moved to  $\mathcal{O}$ .
- 5906 b. Oblique arguments of any other type (DOs, P-arguments) may never be clitic  
5907 doubled; however, if they themselves are clitics, they are moved to  $\mathcal{O}$ .

5908 Splitting things up in the manner of (80) produces some effects similar to those dis-  
5909 cussed above in reference to ANA, where we saw that certain assumptions make it difficult  
5910 to state larger generalizations. In the case at hand, an analysis based on (80) makes it im-  
5911 possible to state the generalization in (81):

- 5912 (81) Subjects in Sorani are always agreed with.

5913 Instead, this generalization is broken into the two components in (82);

- 5914 (82) a. The syntax of Ergative subjects obligatorily involves a clitic double that is MS  
5915 Clitic Moved to  $\mathcal{O}$ .
- 5916 b. Nominative arguments are targeted by MS Agree.

5917 Since these statements are not connected, the uniformity of the system— that is, the fact  
 5918 that Subjects are always accompanied by an indexer that is not complementary with it— is  
 5919 not explained. This is not necessarily a problem for the clitic doubling analysis, though; by  
 5920 appealing to Clitic doubling of Ergative Subjects, since it is in essence rejecting the idea  
 5921 that there is a generalization about agreement to be accounted for in the first place.

5922 Moving ahead, we are not aware of any syntactic diagnostic in Sorani that can be used  
 5923 to determine conclusively how this kind of clitic doubling analysis fares against the MS  
 5924 Agreement approach that we have adopted. At the same time, to the extent that we are able  
 5925 to adapt some tests that have been used in the literature it appears that the MP Clitic behaves  
 5926 like MS Agreement, not a (pronominal) clitic doubled by an associate.

5927 To take one example, Baker and Kramer (2018) argue that clitic doubling is not possible  
 5928 with e.g., quantified subjects or non-D-linked *wh*-phrases, as they are non-referential (see  
 5929 also Baker and Kramer 2016). For the case of Subjects in particular they illustrate this point  
 5930 with Colloquial French (see Culbertson 2010), which they conclude has an MP clitic as the  
 5931 result of MS Clitic Doubling, not MS Agreement:

- 5932 (83) a. Jean (il) parle.  
           John he speaks  
           ‘Jean speaks.’  
 5933  
 5934 b. Personne (\*il) n’a rien dit.  
           nobody he NEG-has nothing said  
           ‘Nobody said anything.’ (Colloquial French; Culbertson 2010:1a-b)  
 5935

5936 Baker and Kramer contrast this behavior with what is seen in the Italian variety Pied-  
 5937 montese, where indexation with an MP clitic is necessary with quantifiers; this they refer to  
 5938 as ‘pure agreement.’ This is in fact what is found in Sorani, where a (negative) quantified  
 5939 subject must indexed by an MP clitic in the perfective, as exemplified in (84a) (and in a  
 5940 few other examples throughout the book). Similarly, with a non-D-linked *wh*-phrase, the  
 5941 indexer is also obligatory, (84b).

- 5942 (84) a. hiç kes John=\*(î) ne-bîmî.  
           any person John=3SG.CL NEG-see.PST  
           ‘Nobody saw John.’  
 5943  
 5944 b. çî naxoş-eke=\*(y) kuşt?  
           what patient-the=3SG.CL kill.PST  
           ‘What killed the patient?’  
 5945

5946 This makes Sorani Ergative indexation unlike typical CD (or for that matter, other opera-  
 5947 tions that involve clitics, such as Clitic Left Dislocation), which is subject to certain defi-  
 5948 niteness (or animacy) restrictions crosslinguistically.

5949 Treating the relationship between the Subject of a transitive and its MP-clitic indexer  
 5950 in the perfective as an instance of CD would also be unusual typologically: having only  
 5951 Subjects doubled (and not Objects) is unexpected to say the least. If anything, languages

5952 have clitic doubling for objects or indirect objects, but not subjects, e.g., Greek, Arabic,  
 5953 Spanish. Furthermore, in CD languages, the clitics are mostly optional (Kramer 2014), as  
 5954 shown in (85) for Spanish, and not mutually exclusive with their associate, which is the case  
 5955 in Kurdish varieties.

5956 (85) (Lo) vimos a Guille.  
 3M.SG saw.1PL to Guille  
 5957 ‘We saw Guille.’ (Rioplátense Spanish; Jaeggli 1982:14)

5958 In short form, an attempt to reduce the patterns in Kurdish varieties to Clitic doubling  
 5959 faces a number of challenges: its indexation behavior does not readily fit with standard  
 5960 definitions or properties of Clitic doubling.

5961 \* \* \*

5962 As far as we can tell, then, the MS Clitic alternative does not have a great deal going  
 5963 for it. The only clear motivation for it seems to be the insistence that only direct MS/MP  
 5964 relations are possible. As has been pointed out in the literature, though, relying on mor-  
 5965 phophonology for CD diagnostics is problematic (e.g., Baker and Kramer 2018; Yuan 2021;  
 5966 Akkuş 2022a). Moreover, in the larger context of the present work, retaining direct MS/MP  
 5967 for Ergative Subjects would have to go hand-in-hand with ANA; and we saw above that this  
 5968 type of analysis has very clear problems. We therefore conclude that the MP Clitic indexing  
 5969 Ergative Subjects is the result of MS Agreement.<sup>35</sup>

5970 **6.3.3 MS/MP: Conclusions**

5971 As we discussed in the opening chapters of this book, there are in principle two ways in  
 5972 which MS operations and their MP reflexes could be related. Our analysis of Sorani pro-  
 5973 vides clear evidence in favor of an *indirect* view of MS/MP relations for  $\varphi$  elements, in  
 5974 which there can be mismatches. The specific MS/MP relations we argued for are as fol-  
 5975 lows:

- 5976 (86) MS/MP Relations in Sorani
- 5977 a. MS Agreement can result in
    - 5978 i. an MP Agreement morpheme *Nominative Subjects*
    - 5979 ii. an MP Clitic *Ergative Subjects*
  - 5980 b. MP Clitic Movement can result in
    - 5981 i. an MP Agreement morpheme *Objective DO/IO*
    - 5982 ii. an MP Clitic *Accusative DO/IO*

---

<sup>35</sup>This conclusion is part of a convergence of different perspectives. For example, Haig (2017: 482) notes that “despite the evidently clitic nature of the marker itself, functionally, it is an agreement marker” (see also Samvelian 2007a; Jügel 2009; Öpengin 2019 for the same position).

5983 As shown in this section, the analysis that posits the mismatches (86a-ii) and (86b-i) is  
5984 superior to alternatives that maintain direct MS/MP. Sorani thus provides further evidence  
5985 that the direct view of MS/MP must be abandoned.

5986 To put this argument into context, moves toward the indirect view can be found in the  
5987 literature both in work that looks at more morphosyntactic matters, and in work directed at  
5988 the morphophonological.

5989 On the morphosyntactic side, work by Preminger (2009) argues that different MP Agree-  
5990 ment morphemes in Basque do not have the same MS provenance. In particular, while Ab-  
5991 solutive Agreement morphemes receive their features via MS Agreement, the Ergative and  
5992 Dative agreement morphemes are MS clitics, in a doubling relation with a full DP argument.  
5993 Kramer (2014) argues for something similar in a study of Amharic verbal morphology; she  
5994 concludes that what is referred to as ‘object agreement’ in that language is a doubled clitic,  
5995 not the result of MS agreement. Yuan (2021) provides another illustration, arguing that  
5996 two varieties of Inuit differ in terms of whether certain indexers are MS agreement mor-  
5997 phemes, or doubled clitics. While these works share the idea that certain MP Agreement  
5998 morphemes are actually MS clitics, there are arguments in the other direction as well: for  
5999 example, there is also a line of literature that argues for MP clitics that are the result of MS  
6000 agreement operations– see Di Tullio et al. 2019; Paparounas and Salzmann In press).

6001 Our results both provide further confirmation for both of these lines of argument within  
6002 an individual language, and extend them. The works cited above have almost always looked  
6003 at cases that are analyzed as instances of clitic doubling, which introduces complexities of  
6004 its own. The varieties of Sorani that we report on here do not have clitic doubling. And  
6005 as we showed in 6.3.2, treating Sorani indexation with clitic doubling– a move that would  
6006 maintain direct MS/MP– is entirely unmotivated.

6007 On the MP side, many theories recognize a sharp *clitic/affix* distinction, the topic of  
6008 a great deal of discussion in the 1980s onwards (see e.g. Zwicky and Pullum 1983) on  
6009 account of its connections with the architectural premises of Lexicalist theories of different  
6010 types.<sup>36</sup> For theories accepting a distinction of this type– versions of Lexical Phonology  
6011 and Morphology, for example (Kiparsky 1982, 1983)– MP affixes are expected to behave in  
6012 ways that exhibit ‘close’ phonological connections with the word in which they appear; i.e.,  
6013 interacting with the word-level (or Lexical) phonological rules. Clitics, on the other hand,  
6014 are predicted to be less phonologically involved with their hosts.

6015 In the light of these predictions, a subsequent literature examines MS clitics that behave  
6016 like MP affixes– so-called *lexical clitics*. Elements with these properties were identified in  
6017 a number of case studies in the 1980s and were brought together in Halpern (1995). Re-  
6018 sponse to the apparent mismatches are varied. Halpern, for example, argues that direct  
6019 MS/MP relations must be maintained. His response to the observed lexical clitics is to treat  
6020 them as “unusually placed inflectional affixes.” In the opposite theoretical direction, Embick  
6021 (1995) analyzes one apparent ‘lexical clitic’ (Polish auxiliaries) and argues that its behavior  
6022 is unproblematic as long as syntactically distributed elements can show ‘close’ phonolog-

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<sup>36</sup>See Nevis et al. 1994 for the treatment of *clitic* as an umbrella term, which encompasses ‘mixed’ properties.

6023 ical interactions with their hosts, contra the predictions of a Lexicalist theory direct view  
6024 of MS/MP relations. Embick and Noyer (2001) argue for something similar, and Shwayder  
6025 (2015) provides a large overview of subsequent developments, examining MS/MP mis-  
6026 matches from the perspective of a uniformly syntactic approach to morphology as part of a  
6027 general argument for a “contextual” determination of MP properties.

6028 In summary, Sorani provides a clear illustration of a point that two lines of research  
6029 have been moving towards: the MS status of a morpheme does not determine a unique type  
6030 of MP behavior. Rather, MP behavior emerges as the result of a sequence of steps that take  
6031 place in the syntax and at PF.

#### 6032 **6.4 General conclusions and future directions**

6033 At the beginning of this book we pointed to the centrality of case and agreement in the  
6034 study of morphosyntax, and in concluding we will take the opportunity to look back at our  
6035 primary results, and see what kind of future research directions they point to.

6036 The obvious place to begin (and end) is with case features. These are central to all of  
6037 the analyses that we have developed. But thinking about them at the end of this book leads  
6038 to an interesting kind of tension. On the one hand, something like Case Targeting appears to  
6039 be necessary for Sorani (and other languages), as we have been at pains to demonstrate. On  
6040 the other hand, the *nature* of the case features that are required for this is relatively unclear.  
6041 We noted this in early chapters of the book, when we referred to the features that we posit  
6042 as *abstract*. By this, we meant that while we made use of features like [ $\pm$ subject] and  
6043 [ $\pm$ oblique], which have familiar connotations, our analyses do not connect these features to  
6044 anything outside of the indexation system itself. Thinking about this in terms of Sorani, we  
6045 motivated an analysis in which there are four distinct kinds of indexation behavior, which  
6046 amounts to positing four different cases to be targeted. For this to be done, we could have  
6047 been entirely abstract, with [ $\pm\alpha$ ] and [ $\pm\beta$ ], for example.

6048 There are reasons we opted for [ $\pm$ subject] and [ $\pm$ oblique], and these point to the kinds  
6049 of directions that we hope will be investigated in the light of what we have argued for here.  
6050 For [ $\pm$ subject], we foresee connections with basic aspects of clause structure— through-  
6051 out the Sorani system, the arguments that bear this feature are the highest in the clause.  
6052 (The qualification to *almost* here takes into account two exceptions that have ‘dual sub-  
6053 ject’ properties— clausal possession and IO passives— both of which are remarkable in other  
6054 ways.) Our use of [ $\pm$ oblique] is in many ways a continuation of a standard way of talking  
6055 about certain cases within Iranian linguistics. But it also connects with structural matters  
6056 in a clear way: it is found with both Ergatives and Accusatives, both of which are argued  
6057 to be dependent cases. For both features, then, there is a possibility of linking them to a  
6058 configurational theory of case assignment; bearing in mind the caveat from 6.1.3 that we  
6059 believe that the same case features may be both inherently and configurationally assigned  
6060 even in the same language.

6061 Though we have discussed just these two features due to the role they play in this  
6062 book, the more general question of interest is what case assignment looks like when it is

6063 approached at the grain that we have argued for here. By way of concluding, then, we will  
6064 offer a few thoughts on what our view of case might mean for the basic question at the center  
6065 of comparative syntax, concerning what is universal, versus language-particular. Clearly our  
6066 results argue that case assignment must precede agreement and clitic movement; we do not  
6067 expect this to vary cross-linguistically. But what about the features themselves?

6068 Here it is not clear what the space of possibilities looks like, because we have very  
6069 little evidence about what case features might be sensitive to beyond what we reviewed for  
6070 [ $\pm$ subject] and [ $\pm$ oblique] above. If we had to speculate, we would hypothesize that there  
6071 are a limited number of configurations or configurational properties (of the type ‘highest in  
6072 domain’, or ‘local to another argument’) that define the space of possible case features and  
6073 their values. The focus of the theory of case assignment is on the question of how much  
6074 variation is allowed within such domains, and how features are associated with them.

6075 Only time will tell (in the course of detailed case studies involving more languages and  
6076 more cases) whether this intuition is on the right track. Our hope is that the present work  
6077 thus both provides insight into how the grammar operates, and pinpoints in addition some  
6078 aspects of how it works that are simply not understood at present, and hence require further  
6079 investigation.

Figure A.1: SSK alignment patterns by aspect

	MP-CLITIC		MP-AGREEMENT
IMPERFECTIVE	DO		Subject
		×	
PERFECTIVE	Subject		DO

Figure A.2: GK alignment patterns by aspect

	MP-CLITIC		MP-AGREEMENT
IMPERFECTIVE	DO		Subject
		×	
PERFECTIVE	Subject; DO		–

Figure A.3: Adıyaman Kurdish alignment patterns by aspect

	OBL		DIR
IMPERFECTIVE	DO		Subject
		×	
PERFECTIVE	Subject		DO



Figure A.4: Muş Kurdish alignment patterns by aspect

	OBL	DIR
IMPERFECTIVE	DO	Subject
PERFECTIVE	Subject; DO	–

6082 (87) Summary of SSK patterns

6083 a. Imperfective

**SSK: Imperfective**

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
6084 A	NOM	MP agr on T	MS Agree
S	NOM	MP agr on T	MS Agree
O	ACC	MP clitic on $\emptyset$	MS Clitic Movement

6085 b. Perfective

**SSK: Perfective**

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
6086 A	ERG	MP clitic on $\emptyset$	MS Agree
S	NOM	MP agr on T	MS Agree
O	OBJ	MP agr on T	MS Clitic Movement

6087 (88) Summary of Garmiani patterns

6088 a. Imperfective (same as SSK)

**GK: Imperfective**

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
6089 A	NOM	MP agr on T	MS Agree
S	NOM	MP agr on T	MS Agree
O	ACC	MP clitic on $\emptyset$	MS Clitic Movement

6090 b. Perfective

**GK: Perfective**

6091

<i>Argument</i>	<i>Case</i>	<i>Indexer</i>	<i>Indexation Operation</i>
A	ERG	MP clitic on $\emptyset$	MS Agree
S	NOM	MP agr on T	MS Agree
O	ACC	MP clitic on $\emptyset$	MS Clitic Movement

6092 **B**6093 **Verb paradigms**6094 **B.1 Standard Sorani Kurdish (SSK)**

6095 Here and below,  $\mathfrak{B}$  is where the verb “stem” appears– note that the actual form will differ  
 6096 by the perfective imperfective distinction.

6097 For the verb  $\mathfrak{B}$  ‘see’, we provide a few representative tense-aspect combinations as well  
 6098 as a negative context.

## 6099 (89) Present tense

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	de-t $\mathfrak{B}$ -im	de-y $\mathfrak{B}$ -im	–	de-tan $\mathfrak{B}$ -im	de-yan $\mathfrak{B}$ -im
2s	de-m $\mathfrak{B}$ -î(t)	–	de-y $\mathfrak{B}$ -î(t)	de-man $\mathfrak{B}$ -î(t)	–	de-yan $\mathfrak{B}$ î(t)
6100 3s	de-m $\mathfrak{B}$ -ê(t)	de-t $\mathfrak{B}$ -ê(t)	de-y $\mathfrak{B}$ -ê(t)	de-man $\mathfrak{B}$ -ê(t)	de-tan $\mathfrak{B}$ -ê(t)	de-yan $\mathfrak{B}$ -ê(t)
1p	–	de-t $\mathfrak{B}$ -in	de-y $\mathfrak{B}$ -in	–	de-tan $\mathfrak{B}$ -in	de-yan $\mathfrak{B}$ -in
2p	de-m $\mathfrak{B}$ -in	–	de-y $\mathfrak{B}$ -in	de-man $\mathfrak{B}$ -in	–	de-yan $\mathfrak{B}$ -in
6101 3p	de-m $\mathfrak{B}$ -in	de-t $\mathfrak{B}$ -in	de-y $\mathfrak{B}$ -in	de-man $\mathfrak{B}$ -in	de-tan $\mathfrak{B}$ -in	de-yan $\mathfrak{B}$ -in

## 6102 (90) Simple past

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	$\mathfrak{B}$ -m-it	$\mathfrak{B}$ -m	–	$\mathfrak{B}$ -m-in	$\mathfrak{B}$ -m-in
2s	$\mathfrak{B}$ -t-im	–	$\mathfrak{B}$ -t	$\mathfrak{B}$ -t-în	–	$\mathfrak{B}$ -t-in
6103 3s	$\mathfrak{B}$ -m-î	$\mathfrak{B}$ -t-î	$\mathfrak{B}$	$\mathfrak{B}$ -yn-î	$\mathfrak{B}$ -n-î	$\mathfrak{B}$ -n-î
1p	–	$\mathfrak{B}$ -man-ît	$\mathfrak{B}$ -man	–	$\mathfrak{B}$ -man-in	$\mathfrak{B}$ -man-in
2p	$\mathfrak{B}$ -tan-im	–	$\mathfrak{B}$ -tan	$\mathfrak{B}$ -tan-în	–	$\mathfrak{B}$ -tan-in
3p	$\mathfrak{B}$ -yan-im	$\mathfrak{B}$ -yan-ît	$\mathfrak{B}$ -yan	$\mathfrak{B}$ -yan-în	$\mathfrak{B}$ -yan-in	$\mathfrak{B}$ -yan-in

## 6104 (91) Past Progressive

$\frac{PAT \Rightarrow}{\downarrow AG}$	<b>1s</b>	<b>2s</b>	<b>3s</b>	<b>1p</b>	<b>2p</b>	<b>3p</b>
1s	–	de-m ʒ-t	de-m ʒ	–	de-m ʒ-n	de-m ʒ-n
2s	de-t ʒ-m	–	de-t ʒ	de-t ʒ-n	–	de-t ʒ-n
3s	de-y ʒ-m	de-y ʒ-t	de-y ʒ	de-y ʒ-n	de-y ʒ-n	de-y ʒ-n
1p	–	de-man ʒ-t	de-man ʒ	–	de-man ʒ-n	de-man ʒ-n
2p	de-tan ʒ-m	–	de-tan ʒ	de-tan ʒ-n	–	de-tan ʒ-n
3p	de-yan ʒ-m	de-yan ʒ-t	de-yan ʒ	de-yan ʒ-n	de-yan ʒ-n	de-yan ʒ-n

6107 (92) Past Progressive - Negative

$\frac{PAT \Rightarrow}{\downarrow AG}$	<b>1s</b>	<b>2s</b>	<b>3s</b>	<b>1p</b>	<b>2p</b>	<b>3p</b>
1s	–	ne-m de-ʒ-t	ne-m de-ʒ	–	ne-m de-ʒ-n	ne-m de-ʒ-n
2s	ne-t de-ʒ-m	–	ne-t de-ʒ	ne-t de-ʒ-n	–	ne-t de-ʒ-n
3s	ne-y de-ʒ-m	ne-y de-ʒ-t	ne-y de-ʒ	ne-y de-ʒ-n	ne-y de-ʒ-n	ne-y de-ʒ-n
1p	–	ne-man de-ʒ-t	ne-man de-ʒ	–	ne-man de-ʒ-n	ne-man de-ʒ-n
2p	ne-tan de-ʒ-m	–	ne-tan de-ʒ	ne-tan de-ʒ-n	–	ne-tan de-ʒ-n
3p	ne-yan de-ʒ-m	ne-yan de-ʒ-t	ne-yan de-ʒ	ne-yan de-ʒ-n	ne-yan de-ʒ-n	ne-yan de-ʒ-n

6110 (93) Past perfect

$\frac{PAT \Rightarrow}{\downarrow AG}$	<b>1s</b>	<b>2s</b>	<b>3s</b>	<b>1p</b>	<b>2p</b>	<b>3p</b>
1s	–	ʒ-bû-m-it	ʒ-bû-m	–	ʒ-bû-m-in	ʒ-bû-m-in
2s	ʒ-bû-t-im	–	ʒ-bû-t	ʒ-bû-t-în	–	ʒ-bû-t-in
3s	ʒ-bû-m-î	ʒ-bû-t-î	ʒ-bû-y	ʒ-bû-yn-î	ʒ-bû-n-î	ʒ-n-î
1p	–	ʒ-bû-man-ît	ʒ-bû-man	–	ʒ-bû-man-in	ʒ-bû-man-in
2p	ʒ-bû-tan-im	–	ʒ-bû-tan	ʒ-bû-tan-în	–	ʒ-bû-tan-in
3p	ʒ-bû-yan-im	ʒ-bû-yan-ît	ʒ-bû-yan	ʒ-bû-yan-în	ʒ-bû-yan-in	ʒ-bû-yan-in

6112 **B.2 Garmiani Kurdish (GK)**

6113 (94) Present tense

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	de-t ʒ-im	de-y ʒ-im	–	de-tan ʒ-im	de-yan ʒ-im
2s	de-m ʒ-î(t)	–	de-y ʒ-î(t)	de-man ʒ-î(t)	–	de-yan ʒ-î(t)
6114 3s	de-m ʒ-ê(t)	de-t ʒ-ê(t)	de-y ʒ-ê(t)	de-man ʒ-ê(t)	de-tan ʒ-ê(t)	de-yan ʒ-ê(t)
1p	–	de-t ʒ-în	de-y ʒ-în	–	de-tan ʒ-în	de-yan ʒ-în
2p	de-m ʒ-in	–	de-y ʒ-in	de-man ʒ-in	–	de-yan ʒ-in
6115 3p	de-m ʒ-in	de-t ʒ-in	de-y ʒ-in	de-man ʒ-in	de-tan ʒ-in	de-yan ʒ-in

6116 (95) Simple past

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	ʒ-t-im	ʒ-m	–	ʒ-tan-im	ʒ-yan-im
2s	ʒ-m-it	–	ʒ-t	ʒ-man-it	–	ʒ-yan-it
6117 3s	ʒ-m-î	ʒ-t-î	ʒ	ʒ-man-î	ʒ-tan-î	ʒ-yan-î
1p	–	ʒ-t-man	ʒ-man	–	ʒ-tan-man	ʒ-yan-man
2p	ʒ-m-tan	–	ʒ-tan	ʒ-man-tan	–	ʒ-yan-tan
3p	ʒ-m-yan	ʒ-t-yan	ʒ-yan	ʒ-man-yan	ʒ-tan-yan	ʒ-yan-yan

6118 (96) Past progressive

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	de-t-im ʒ	de-m ʒ	–	de-tan-im ʒ	de-yan-im ʒ
2s	de-m-it ʒ	–	de-t ʒ	de-man-it ʒ	–	de-yan-it ʒ
6119 3s	de-m-î ʒ	de-t-î ʒ	de-y ʒ	de-man-î ʒ	de-tan-î ʒ	de-yan-î ʒ
1p	–	de-t-man ʒ	de-man ʒ	–	de-tan-man ʒ	de-yan-man ʒ
2p	de-m-tan ʒ	–	de-tan ʒ	de-man-tan ʒ	–	de-yan-tan ʒ
6120 3p	de-m-yan ʒ	de-t-yan ʒ	de-yan ʒ	de-man-yan ʒ	de-tan-yan ʒ	de-yan-yan ʒ

6121 (97) Past progressive - Negative

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	ne-t-im de-ꠄ	ne-m de-ꠄ	–	ne-tan-im de-ꠄ	ne-yan-im de-ꠄ
2s	ne-m-it de-ꠄ	–	ne-t de-ꠄ	ne-man-it de-ꠄ	–	ne-yan-it de-ꠄ
6122 3s	ne-m-î de-ꠄ	ne-t-î de-ꠄ	ne-y de-ꠄ	ne-man-î de-ꠄ	ne-tan-î de-ꠄ	ne-yan-î de-ꠄ
1p	–	ne-t-man de-ꠄ	ne-man de-ꠄ	–	ne-tan-man de-ꠄ	ne-yan-man de-ꠄ
2p	ne-m-tan de-ꠄ	–	ne-tan de-ꠄ	ne-man-tan de-ꠄ	–	ne-yan-tan de-ꠄ
6123 3p	ne-m-yan de-ꠄ	ne-t-yan de-ꠄ	ne-yan de-ꠄ	ne-man-yan de-ꠄ	ne-tan-yan de-ꠄ	ne-yan-yan de-ꠄ

6124 (98) Past perfect

$\frac{PAT \Rightarrow}{\downarrow AG}$	1s	2s	3s	1p	2p	3p
1s	–	ꠄ-bû-t-im	ꠄ-bû-m	–	ꠄ-bû-tan-im	ꠄ-bû-yan-im
2s	ꠄ-bû-m-it	–	ꠄ-bû-t	ꠄ-bû-man-it	–	ꠄ-bû-yan-it
6125 3s	ꠄ-bû-m-î	ꠄ-bû-t-î	ꠄ-bû-y	ꠄ-bû-man-î	ꠄ-bû-tan-î	ꠄ-bû-yan-î
1p	–	ꠄ-bû-t-man	ꠄ-bû-man	–	ꠄ-bû-tan-man	ꠄ-bû-yan-man
2p	ꠄ-bû-m-tan	–	ꠄ-bû-tan	ꠄ-bû-man-tan	–	ꠄ-bû-yan-tan
6126 3p	ꠄ-bû-m-yan	ꠄ-bû-t-yan	ꠄ-bû-yan	ꠄ-bû-man-yan	ꠄ-bû-tan-yan	ꠄ-bû-yan-yan

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