Differential case-marking in Ecuadorian Siona

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CHAPTER 2

Differential case-marking in the typological record

The present chapter presents an overview of the literature pertaining to DCM, situating the Siona facts with respect to that literature, and establishing the conceptual backdrop for the analysis developed for Siona DCM here.

In the typological tradition, both language-specific and cross-linguistic investigations regarding DCM patterns are taken to be contributions to a single research program (Klein and de Swart 2011, 4; *contra* Carnie 2006; Haspelmath 2007):

The CHARACTERIZATION of language-specific patterns
⇕
The FORMULATION of cross-linguistic generalizations
⇕
The EXPLANATION of these cross-linguistic patterns

Section 2.2 outlines how the description of DCM patterns is conceived as comprising separate domains of inquiry that come together to achieve a 'complete' language-particular description and to facilitate typological comparisons.

Before moving to that, I begin by laying out a working definition of DCM.

2.1 DCM: A working definition

DCM refers to a range of phenomena whereby nominals of the same grammatical relation (i.e., CASE FUNCTION) are case-marked in different ways. For instance, the Sakha minimal pair in (1) juxtaposes two grammatically licit sentences. In (1a), the DIRECT OBJECT displays *ni*-marking, whereas the corresponding OBJECT-argument in (1b) is zero-marked:

(1) Sakha (*sah* — TURKIC) [adapted from Baker 2015, 1-4, exx. (1c),(5)]

a. *Erel* ***kinige-ni*** *atyylas-ta*
E.NOM book-ACC buy-PST.3SS
'Erel bought the book.'

b. *Erel* ***kinige*** *atyylas-ta*
E.NOM book buy-PST.3SS
'Erel bought a book/books.'

While both *ni-* and zero-marking are grammatically licit in the language, the choice of one or the other marking alternative has interpretative implications. Particularly, the selection of the overt case-marker, *-ni*, evokes a specific or definite reading of the OBJECT-argument, which is lacking where zero-marking is selected. Setting aside semantico-pragmatic factors underpinning case-marker selection until the following section, (2) provides a strictly formal definition for DCM, assumed here:

(2) **Differential case marking** (DCM — *working formal definition*):
The phenomenon whereby not every argument bearing a given grammatical relation is encoded with the same case-marker.
[adapted from Witzlack-Makarevich and Seržant 2018, 3, ex. (1)]

2.2 Ingredients for a holistic description of DCM

It is well-established that DCM patterns are commonplace cross-linguistically (e.g., Bossong 1985; Aissen 1999, 2003; de Swart 2007; Iemmolo 2010, 2013; Sinnemäki 2014; Haspelmath 2019, 2021). Over the decades, the DCM literature has been enriched by descriptions of languages from diverse areas of the globe. In spite of a degree of morphological and semantico-pragmatic overlap across DCM cross-linguistically, the phenomenon is far from uniform, leading to conflicting definitions.

Modern DCM theory aims to account for points of variation across DCM languages, and their implications for a unified account of this phenomenon. Rufilanchas (2014, 515) identifies three major dimensions of variation in DCM. An adequate description of DCM phenomena in a given language would need to address each of these dimensions:

(3) Definitions of [DCM] disagree in at least three aspects:

a. "The [...] morphosyntactic phenomena [involved]" ;
[i.e., the *formal* dimension — Section 2.2.1]

b. "The syntactic functions and semantic roles [subject to] the phenomenon" ; [i.e., the *functional* dimension — Section 2.2.2]

c. "The dimensions that determine [DCM] and the relevant transitivity parameters." [i.e., TRIGGERS for DCM alternations — Section 2.2.3]

This section explores each of these dimensions in turn, bringing forward data from the descriptive and typological literature, and discussing the implications for the analysis of Siona DCM. The compartmentalized discussion achieves a more refined typology than is usually seen in general descriptions.

2.2.1 The formal dimension: A typology of DCM patterns

DCM, as defined here, hinges on the presence of case-marking on at least certain nominals of a given grammatical relation. However, DCM is part of a larger family of grammatical phenomena where the coding of arguments is not strictly homogeneous for all grammatical relations. Complementary to DCM, i.e., a variable dependent-marking strategy, is its head-marking counterpart, e.g., *differential argument agreement* (DAA).[1] Swahili DAA (recently discussed in Mursell 2018) is exemplified in (4), where the presence of OBJECT-agreement morphology on the verb is correlated with a definite or topical reading of the corresponding argument:[2]

(4) Swahili (*swh* — BANTU, NORTHEAST COASTAL)
[Givón 1976, 159, cited in Coghill 2014, 338, ex. (2)]

a. *ni-li-**ki**-soma* ***kitabu***
1SG-PST-OBJ-read book
'I read the book.'

b. *ni-li-soma* ***kitabu***
1SG-PST-read book
'I read a book.'

A related phenomenon concerns covariation of so-called *clitic-doubling* and case-marking, as demonstrated in the Romanian sentences in (5). This pattern represents a combination of both dependent- and head-marking patterns and for most authors is treated as a DCM sub-phenomenon:

(5) Romanian (*ron* — INDO-EUROPEAN, ROMANCE)
[Chiriacescu and von Heusinger 2010, 301-304, exx. (3), (7a)]

a. ***l**=am* *vâzut* ***pe Ion*** / ***pe Donald Duck***
3SG.M.ACC=have seen OBJ John OBJ DD
'I have seen John / Donald Duck.'

b. *caut* ***secretarâ***
look_for secretary
'I am looking for a secretary (specific/non-specific).'

There is clear overlap between DAA and *clitic doubling* strategies and DCM, given that each phenomenon implicates an alternation between a more and a less complex marking alternative. The differences are primarily morphological in nature, and solid theoretical motivations exist for collapsing these phenomena (e.g., Chappell and Verstraete 2019, §2.3). This dissertation limits its empirical scope to pure case-marking strategies — i.e., DCM in a strict sense.

[1] Just as alternative, role-specific, labels for DCM are found in the literature — e.g., DIFFERENTIAL OBJECT MARKING (DOM), a label such as DIFFERENTIAL OBJECT AGREEMENT (DOA) is commonly found. However, like DCM, these patterns are not limited to coding the OBJECT-argument (cf. Haspelmath 2005; Coghill 2014).

[2] Similar DAA phenomena are noted across the Bantu family, and are driven by various TRIGGERS that largely align with those described for DCM in **Section 2.2.3** — e.g., Dimmendaal 2010; Zeller 2014; van der Wal 2022.

There exist several formal types of DCM patterns. Following terminology in Kittilä (2005; adopted in Chappell and Verstraete 2019),[3] an ALTERNATING-type DCM pattern is one where more than one case-marker may be selected to encode a given grammatical relation. In these alternations, no zero-marking is attested. OBJECT-oriented ALTERNATING DCM is demonstrated for Evenki in (6), and A'ingae in (7):

(6) Evenki (*evn* — TUNGUSIC)
[Nedjalkov 1997, 193, cited in Iemmolo 2013, 385, exx. (9a),(10a)]

a. ***oron-mo*** *java-kal*
reindeer-DEF.ACC take-PRS.IMP.2SG
'Catch <u>that reindeer</u>.'

b. ***oron-o*** *java-kal*
reindeer-INDEF.ACC take-PRS.IMP.2SG
'Catch yourself <u>a/any reindeer</u>.'

(7) A'ingae (*con* — *isolate*) [Fischer and Hengeveld 2023, 93, exx. (95),(97)]

a. ***matichi=ve=ta=ti=ki*** *in'jan='fa*
machete=ACC.IRR=NEW.TOP=INT=2 want=SBJ.PL
'Do you want <u>machetes</u>?'

b. *sumbu-en=jan* ***ain-fa='u=ma***
emerge-CAUS-IMP dog-CL:LAT=AUG=ACC.REAL
'Get <u>the dog</u> out.'

In contrast to these ALTERNATING-type DCM patterns are OPTIONAL-type DCM systems, where an overt case-marker alternates with zero-marking (Chappell and Verstraete 2019). The OPTIONAL-type is far more common cross-linguistically (Iemmolo 2013), and not restricted to any particular geographical area. In fact, many traditional definitions for DCM exclusively capture DCM of this formal type (e.g., Bossong 1985; Aissen 2003; Nichols and Bickel 2013; Sinnemäki 2014). A classic example of the OPTIONAL DCM pattern for Turkish OBJECT-marking is demonstrated in (8):

(8) Turkish (*tur* — TURKIC)
[von Heusinger and Kornfilt 2005, 5, cited in Sinnemäki 2014, 282, ex. (1)]

a. *Ben* ***bir kitab-ı*** *oku-du-m*
I a book-ACC read-PST-1SG
'I read <u>a certain book</u>.'

b. *Ben* ***bir kitab*** *oku-du-m*
I a book read-PST-1SG
'I read <u>a book</u>.'

There exists another possible formal DCM type, which has not been recognized previously in the literature. This dissertation proposes the label HYBRID-type DCM for the pattern which combines aspects of the two above-mentioned formal types: i.e., where zero-marking alternates with multiple overt case-markers. This pattern is relevant for

[3] An alternative terminology is utilized by de Hoop and Malchukov (2007; also Iemmolo 2013, borrowed from Dixon 1994): *symmetrical* case-marking refers to multiple overt forms in alternation, whereas *asymmetrical* case-marking refers to an alternation between an overt form and zero-marking.

the description of Siona DCM, as shown in (9) for P-oriented DCM:[4] The DIRECT OBJECT may be marked with *-ni* or with *-re*, or be zero-marked, based upon the context and the animacy class of the argument:

(9) Ecuadorian Siona (*snn* — WESTERN-TUKANOAN)
[adapted from Case & Bruil, *in progress, ms*]

a. *se'seni jachohuë cahuë*
sẽ'se-ni hahcho-wɨ kaa-wɨ
peccary-N.SBJ2 shoot-N3S.PST.ASS say-N3S.PST.ASS
'I wanted to hunt a PECcary.' [NAT: 20151030oagyi001.289]

b. *... bacure aiñë*
bahku-re ãĩ-ñɨ
pacu-N.SBJ eat-N3S.PRS.ASS
'... (they) are eating Pacu (fish species).'
[NAT: 20151030oagyi002.366]

c. *huë'e neni bëahuë*
wɨ'e nee-ni bɨa-wɨ
house make-SS stay-N3S.PST.ASS
'(I) made a hut and stayed (there).' [NAT: 20151030oagyi001.019]

I make no a priori assumptions regarding the relationship between a particular formal type and other, non-formal, properties of the DCM system (*contra*, e.g., de Hoop and Malchukov 2007; Iemmolo 2013; Chappell and Verstraete 2019; Witzlack-Makarevich and Seržant 2018). Furthermore, languages that display multiple DCM patterns may exhibit a different formal type in each pattern. This is shown to be the case for Siona in this dissertation.

2.2.2 The functional dimension: DCM across grammatical relations

DCM patterns may be attested across a range of grammatical relations in a given language. Beyond core arguments, DCM also appears in the typological literature in the encoding of spatiotemporal arguments and a handful of oblique relations.

The earliest- and best-studied DCM patterns pertain to OBJECT-marking,[5] as exemplified in (4) through (9) in the preceding section. This is the most robust DCM pattern cross-linguistically, found in every linguistic area globally (Sinnemäki 2014).

SUBJECT-oriented DCM patterns are also readily attested (de Hoop and de Swart 2008; McGregor 2010; Chappell and Verstraete 2019, 15-17), as demonstrated in the Umpithamu examples in (10),[6] and for Azhee in (11):

[4] In Case and Jeretič 2021, we label this the 'tripartite *differential object marking* system'.

[5] The present discussion uses full words to label grammatical functions (e.g., SUBJECT, GOAL); elsewhere, the short-hand labels suggested in Chapter 1 (i.e., S, P, R, L, G) are used.

[6] The Umpithamu examples in (10) exemplify the *optional ergativity* phenomenon described for languages in Australia, New Guinea, and various Tibeto-Burman languages. These are treated as a sub-type of SUBJECT-oriented DCM for the present purposes.

(10) Umpithamu (*ump* — PAMA-NYUNGAN)
[Chappell and Verstraete 2019, 2, ex. (1)]

a. ***waypala-mpal*** *maarra-n=antyangku* *motoka-nti*
whitefella-ERG take-PST=1PL.EXCL.ACC car-COM
'The whitefella took us in the car.'

b. ***waypala*** *maarra-n=antyangku*
whitefella take-PST=1PL.EXCL.ACC
'The whitefella took us.'

(11) Azhee (*yiz* — SINO-TIBETAN) [adapted from Gerner 2016, 143, exx. (7),(9a)]

a. [***lu***^{33} ***ho***^{21} *(***la***^{55})] [*go*^{33} *mo*^{33}] *tie*^{21} *bə*^{55} *wa*^{55}
hail DSM wheat hit collapse DP
'The hail destroyed the wheat.'

b. [***ŋo***^{21} (*?*****la***^{55})] *ɕi*^{55} *tɕ*^{h}*e*^{33} *to*^{21} *li*^{33}
1SG DSM clothes raise rise come
'I took up the clothes.'

Shifting away from core arguments, recent work has shed light on other DCM patterns. One such pattern concerns DIFFERENTIAL RECIPIENT MARKING, referring to case-marking on the the INDIRECT OBJECT (Haspelmath 2005; Kittilä 2008).[7] (12) exemplifies animacy-driven, ALTERNATING DCM on the INDIRECT OBJECT in Finnish:

(12) Finnish (*fin* — FINNO-UGRIC) [Kittilä 2008, 256, ex. (13)]

a. *lähetti* *lähett-i* *lähettime-n* ***lähettäjä-lle***
messenger.NOM send-3SG.PST transmitter-ACC sender-ALL
'A/the messenger sent a transmitter to the sender.'

b. *lähetti* *lähett-i* *lähettime-n* ***lähetystö-ön***
messenger.NOM send-3SG.PST transmitter-ACC embassy-ILL
'A/the messenger sent a transmitter to the embassy.'

DCM patterns on other oblique arguments are typologically rare. For instance, OPTIONAL-type DCM is attested for INSTRUMENT-marking in the Western Tukanoan language, Koreguaje (Cook and Levinsohn 1985, 97), and a similar pattern is described in Tariana (Aikhenvald 2003, 154-155).

DCM phenomena are even noted in the domain of spatial case-marking (Stolz et al. 2014; Baker 2015). (13) displays an instance of OPTIONAL DCM on the static LOCATION-argument in Yidiny, and (14) shows ALTERNATING DCM in Krongo on the spatial GOAL of the directed motion predicate, distinguishing spatial nouns from human landmarks:

[7] Note that these Kittilä 2008 utilizes the term DIFFERENTIAL GOAL MARKING to refer to INDIRECT OBJECT-oriented DCM. The label GOAL is employed in this dissertation to refer to the target location of a directed motion predicate, and I eschew the usage of this term here in order to avoid confusion.

(13) Yidiny (*yii* — Pama-Nyungan)
[Dixon 1977, in de Hoop and Malchukov 2008, 37]

a. *nundu djana:-n* ***naru walba:-nda***
2sg stood top stone-dat
'It was a stone you stood on top of.'
or, 'Oh, you stood on top of the stone!'

b. *ŋayu djana:-n* ***naru walba:-***
1sg stood top stone
'I stood on top of a stone.'

(14) Krongo (*kgo* — Kadugli-Krongo)
[Reh 1985, 285, cited in Haspelmath 2019, 320, ex. (18)]

a. *ɲáaw* ***kú-fúunì***
he_goes loc-street
'And he goes to the street.'

b. *n-yáaw àʔàŋ* ***àtʊ́ná ìʔìŋ***
I_go I to him
'I go to him.'

As regards temporal dcm, a handful of patterns are attested in a few disparate languages (Dabir-Moghaddam 1992; Seržant 2016; Witzlack-Makarevich and Seržant 2018, 1-4); however, a typological account of this phenomenon is currently lacking.

Recent work demonstrates that spatial dcm is in fact cross-linguistically common (Aristar 1997; Stolz et al. 2014; Haspelmath 2019). These authors find that, of the three universal spatial relations, the likelihood of zero-marking decreases from left to right as follows: Goal > Static location > Source. Chapter 4 in this dissertation refines the discussion regarding spatial dcm patterns within the nwa area, where Siona is spoken, which has not received significant attention to date (Roosvall 2020).

One language, multiple dcm patterns

I stated above that in languages where dcm effects are attested across multiple grammatical relations, each of these dcm patterns needs to be characterized separately. Perhaps the best-described multiple-dcm language in the literature is Hindi, where both Subject- and Object-oriented, Optional dcm effects are attested, as shown in (15):

(15) Hindi (*hin* — Indo-Aryan) [Cann and Miljan 2012, 587-588, ex. (9)-(11)]

a. ***Ilaa=ne***$^{(\text{sbj})}$ ***bacce=ko***$^{(\text{obj})}$ (**baccaa*) *uTaayaa*
I=erg child-obj (child.nom) lift.perf
'Ila$^{(\text{sbj})}$ lifted a/the child$^{(\text{obj})}$.'

b. ***Nadja***$^{(\text{sbj})}$ ***kitab=ko***$^{(\text{obj})}$ *xarid-e-g-i*
N book=obj buy-3sg-fut-f.sg
'Nadja$^{(\text{sbj})}$ will buy a particular/the book$^{(\text{obj})}$.'

c. ***Nadja***$^{(\text{sbj})}$ ***kitab***$^{(\text{obj})}$ *xarid-e-g-i*
N book buy-3sg-fut-f.sg
'Nadja$^{(\text{sbj})}$ will buy a/the book$^{(\text{obj})}$.'

Simplifying the facts considerably, marking of the transitive SUBJECT with the ergative marker *=ne*, is available in clauses where the verb is in the perfective aspect, e.g., (15a). In imperfective clauses the Subject is always zero-marked.[8] On the other hand, in OBJECT-oriented DCM, the dative-marker *-ko* arises on the DIRECT OBJECT under appropriate conditions, e.g., (15b), based upon referential properties of the noun phrase, including animacy and specificity status. These examples show that each core grammatical relation exhibits a unique DCM pattern, which merits description in its own right.

Several multiple-DCM languages are described in the NWA area (Aikhenvald 2015, 241), including Murui (Wojtylak 2021), Tariana (Aikhenvald 2003), and Siona. In these languages, DCM effects are noted in the encoding of core grammatical relations, including certain spatial relations.[9] Particularly regarding Siona, this dissertation analyzes principled DCM patterns across five different grammatical relations: (i) SUBJECT (S), (ii) DIRECT OBJECT (P), (iii) INDIRECT OBJECT (R), (iv) LOCATION (L), and (v) spatial GOAL (G), in addition to a few more minor DCM patterns discussed in the *preliminary description* laid out in the ensuing chapter. Although there is a degree of overlap across a subset of these patterns, each DCM pattern displays unique properties. Individual DCM patterns may vary on the basis of the formal dimension, discussed in Section 2.2.1, and/or based upon the factors governing the selection from the set of available marking alternatives in a given context of usage. These factors, which I call DCM TRIGGERS here, are surveyed in the following section.

2.2.3 The semantico-pragmatics of DCM

The case-marking alternations observed in DCM are not patterns of "free variation". Rather, various factors inform the selection of one or another alternative. This is by far the best-explored dimension of DCM in the literature, particularly in the functional-typological vein (Moravcsik 1978; Comrie 1989; Bossong 1985; Aissen 1999, 2003 — see Haspelmath 2021 for a recent overview). This dissertation employs the term TRIGGER to refer to any factor governing marking within a given DCM pattern.[10] I begin with an overview of the DCM triggers described in the typological literature. Section 2.2.3.1 introduces the notion of TRIGGER STRENGTH, and discusses its implications for the study of multidimensional DCM. Section 2.2.3.2 briefly considers the role of DCM as a disambiguation device.

At the highest level, a given DCM pattern may be governed by properties of the predicate, of the clause, or by properties of argument itself (Witzlack-Makarevich and Seržant 2018, §2; Haspelmath 2021, §8). Predicate- and clause-level TRIGGERS are not as commonly attested in the typology. The Hindi SUBJECT-oriented DCM pattern shown in (15) represents the pattern of DCM driven by clausal aspect, i.e., TAME-triggered DCM, as surveyed in Malchukov and de Hoop (2011). A related pattern

[8] In Hindi perfective clauses, ergative-marking displays an OPTIONAL-type DCM alternation where overt ergative *=ne* indicates the degree of volitionality or agentivity of the SUBJECT, as discussed in de Hoop and Malchukov 2007, and references therein.

[9] Contra Aikhenvald (2015, 241), who does not recognize spatial DCM in the languages of this region.

[10] Note that I do not follow certain authors in distinguishing between factors which TRIGGER and those which RESULT (from) the presence of a particular alternative, typically overt marking (de Swart 2007; de Hoop and Malchukov 2007; Klein and de Swart 2011), even if the only way to "encode" this meaning is via DCM. My motivation for eschewing this distinction is developed further in Chapter 6.

is demonstrated for the NWA language A'ingae in (16). The appropriate accusative case-marker is selected for the OBJECT-argument based upon the reality status of the clause:[11]

(16) A'ingae (*con* — *isolate*) [Fischer and Hengeveld 2023, 93, exx. (95),(97)]

a. *matichi**=ve**=ta=ti=ki* *in'jan='fa*
machete=ACC.IRR=NEW.TOP=INT=2 want=SBJ.PL
'Do you want machetes?'

b. *sumbu-en=jan* *ain-fa='u**=ma***
emerge-CAUS-IMP dog-CL:LAT=AUG=ACC.REAL
'Get the dog out.'

Another family of DCM patterns triggered by clause-level properties has garnered attention in the literature. These concern what I label thematic DCM TRIGGERS. Regarding OBJECT-oriented DCM, much literature reports that the degree of 'affectedness' factors into case-marking patterns (Næss 2004; von Heusinger and Kaiser 2011; Kizilkaya et al. 2022). A typical example is displayed for Finnish in (17). A thematic TRIGGER hinging on the degree of 'agentivity' is described for some SUBJECT-oriented DCM (de Hoop and Malchukov 2008; *contra* Fauconnier 2011; Fauconnier and Verstraete 2014), shown for Manipuri in (18):

(17) Finnish (*fin* — FINNO-UGRIC) [adapted from Næss 2004, 1203, ex. (11)]

a. *hän jo-i* ***maido-n***
s/he drink-PST.3SG milk-ACC
'S/he drank (all) the milk.'

b. *hän jo-i* ***maito-a***
s/he drink-PST.3SG milk-PART
'S/he drank (some of the) milk.'

(18) Manipuri (*mni* — SINO-TIBETAN) [de Hoop and Malchukov 2008, 571, exx. (16), (17)]

a. ***əy-nə*** *tebəl-də* thenŋŋi
I-ERG table-LOC touched
'I touched the table (volitionally).'

b. ***əy*** *tebəl-də* thenŋŋi
I table-LOC touched
'I touched the table (involuntarily).'

DCM patterns which are triggered by properties of the nominal itself, or its referent, are more common typologically (Sinnemäki 2014; Witzlack-Makarevich and Seržant 2018, §2.1; Chappell and Verstraete 2019, §2.3.1). There is a long history of analyzing these coding patterns by appealing to so-called referential prominence scales in the functionalist literature (Durant 1979; Comrie 1989; Silverstein 1986; Aissen 1999,

[11] The A'ingae pattern in (16) is reminiscent of Slavic *genitive-of-negation* constructions (e.g., Dunn and Khairov 2009, §3.3.3, regarding Russian; Bielec 2015, 92-98, for related Polish facts), which, per the definitions in this dissertation, represent predicate-triggered DCM.

2003; etc.).[12] There are three dominant argument-level triggers for DCM identified in this literature: (i) animacy status, (ii) referentiality status, and (iii) information structure (e.g., topicality status) (Haspelmath 2021). Each of these is better conceived as a trigger family (i.e., corresponding to a scale), since they collapse several implicationally related categories, which may or may not be relevant on a language-particular basis (Aissen 1999, 2003): e.g., some languages assign a given case to all animate nouns, whereas others restrict this pattern to human-denoting nominals. Following terminology in Sinnemäki (2014), these broad categories are conceived as MACRO-TRIGGERS, which facilitate the comparison of DCM patterns on a typological basis. Below each MACRO-TRIGGER is discussed in turn.

Animacy status is a common trigger for DCM patterns, particularly concerning OBJECT-marking (Bossong 1984, 1985; Aissen 2003; Sinnemäki 2014; etc.). Unlike specificity or topicality, which are generally context-sensitive properties of a given noun phrase, animacy status is an inherent property of the referent. (19) demonstrates the OBJECT-oriented DCM pattern found in Kannada, where the accusative marker, *-vannu*, is obligatory on animates, and variable on inanimate nouns. The Azhee SUBJECT-oriented DCM examples in (11) displays a similar pattern:

(19) Kannada (*kan* — SOUTH-DRAVIDIAN)
[Lidz 2006, 11, cited in de Swart 2007, 178-179]

a. *naanu* ***sekretari *(-yannu)*** *huDuk-utt-idd-eene*
1SG.NOM secretary-ACC look_for-N.PST-be-1SG
'I am looking for a secretary.'

b. *naanu* ***pustaka(-vannu)*** *huDuk-utt-idd-eene*
1SG.NOM book-ACC look_for-N.PST-be-1SG
'I am looking for a book.'

The MACRO-TRIGGER of referentiality status, following the traditional terminology in Bossong (1984), collapses the following non-inherent nominal categories: specificity, definiteness, and (pro)nominal status. The distinctive marking of pronouns and full nouns is fairly common cross-linguistically (Aissen 2003, 451-454; Haspelmath 2021, §4.1.3), as demonstrated for OBJECT-marking in the Australian language, Pitjantjatjara, in (20). (21) displays the Hebrew pattern of OBJECT-oriented DCM, namely where the distribution of the case-marker prefix, *'et-*, co-occurs with the definite article *ha-*, irrespective of noun class (Danon 2006, 2010; Hacohen et al. 2021):

(20) Pitjantjatjara (*pjt* — PAMA-NYUNGAN)
[Bowe 1990, cited in Aissen 2003, 452, exx. (23),(24a)]

a. *tjitji-ngku* ***Billy-nya*** / ***ngayu-nya*** *nya-ngu*
child-ERG B-ACC / 1SG-ACC see-PST
'The child saw Billy/me.'

b. *Billy-lu* ***tjitji*** *nya-ngu*
B-ERG child see-PST
'Billy saw the child.'

[12] Several variations on the same basic theme (enumerated in Schmidtke-Bode and Levshina 2018, 510-511): e.g., *individuation scale* (Lazard 1998), (*extended*) *animacy hierarchy* (Comrie 1981, Croft 2003), *empathy hierarchy* (DeLancey 1981), *indexability hierarchy* (Bickel 1999), *relevance hierarchy* (Sibatani 2006). This list neglects countless language-particular adaptations used in descriptive works (Haspelmath 2015).

(21) Modern Hebrew (*heb* — West-Semitic) [Aissen 2003, 453, ex. (25)]

a. *ha-seret her'a* ***'et-ha-milxama***
the-movie showed acc-the-war
'The movie showed the war.'

b. *ha-seret her'a* ***(*'et-)milxama***
the-movie showed acc-war
'The movie showed a war.'

Another well-attested context-sensitive Macro-trigger for dcm patterns pertains to the information-structural properties of the argument. Pragmatically-conditioned dcm has garnered significant attention in the more recent literature (e.g., Iemmolo 2010; Dalrymple and Nikolaeva 2011; von Heusinger and Schumacher 2019; Haspelmath 2021; Irimia and Mardale 2023),[13] and is now considered to be one of the dominant cross-linguistic dcm patterns in its own right. (22) displays topic-driven Optional dcm on the Object-argument in Persian. An instance of focus-driven Optional dcm on the Subject-argument in Tibetan is demonstrated in (23):

(22) Persian (*pes* — Indo-Aryan)
[Dalrymple and Nikolaeva 2011, 108-112, cited in Haspelmath 2021, 135, ex. (19)]

a. *man* ***sib*-i (*-râ)** *xarid-am*
1sg apple-indef-acc eat.pst-1sg
'I ate an apple.'

b. *ki* ***mašin-i *(-râ)*** *did*
who car-indef-acc see.pst.3sg
'Who saw a car (referred to previously in discourse)?'

(23) Central Tibetan (*bod* — Sino-Tibetan, Bodic)
[adapted from Tournadre 1995, 264, cited in Haspelmath 2021, 138, ex. (25)]

a. ***khōng*** *khāla' so-kiyo:re'*
he good make-ipfv.gnom
'He prepares the meals.'

b. ***khōng-ki'*** *khāla' so-kiyo:re'*
he-erg good make-ipfv.gnom
'He (i.e., not somebody else) prepares the meals.'

In summary, the bulk of dcm patterns described in the typological literature are driven by one of three argument-level Macro-triggers — i.e., the inherent animacy status of the referent, or the context-sensitive referential or pragmatic status of the argument. Besides these Macro-triggers, a handful of less common, argument-level dcm triggers are attested in the literature — e.g., number (Slavic languages (Witzlack-Makarevich and Seržant 2018, 7), Palauan (Levin 2019), P'urépecha (Maldonado 2011), Hup (Epps 2008)); and person (Abruzzese (D'Alessandro 2017);

[13] Aissen (2003, 436, footnote 2) explicitly acknowledges that topicality is often described as factoring into dcm, particularly differential object marking patterns, although she (like many others) underplays the relevance of this trigger relative to animacy- and specificity-related triggers. Although similar patterns are well-attested in the Bantu tradition — see van der Wal 2022 for recent discussion, information structure has only just begun to receive more serious attention in the dcm literature in particular.

Yindjibarndi (Wordick 1982)). The presence of these disparate TRIGGERS, along with the predicate-level triggers outlined above, highlights the importance of language-particular descriptions to further our understanding of the range of factors which drive DCM patterns cross-linguistically.

2.2.3.1 Multi-dimensionality: Ranking DCM triggers

On the one hand, it must be established *which* TRIGGERS are at play in a particular language. An equally important task is to determine *to what extent* a particular TRIGGER factors into the selection among the available alternatives in a given DCM pattern. The remainder of this section discusses two interrelated notions which are necessary to adequately describe the active factors for a particular pattern: (i) TRIGGER STRENGTH, and (ii) multi-dimensionality.

TRIGGER STRENGTH is related to the fine-grained vision of DCM triggers developed by de Hoop and Malchukov (2007, and furthered in Klein and de Swart 2011, etc.): SPLIT-type DCM effects vs. FLUID-type DCM effects.[14] The former type implicates a STRONG TRIGGER in my terminology, where one category of nominal obligatorily takes a particular marking alternative and another does not. As a case in point, consider the OPTIONAL DCM pattern displayed for Malayalam OBJECT-marking in (24). The case-marker *-e* is obligatory on the human-denoting noun in (24a), but blocked altogether on the inanimate noun in (24b):

(24) Malayalam (*mal* — SOUTH-DRAVIDIAN) [adapted from Asher and Kumari 1997, 57-59]

a. *avan* ***kuṭṭiy-e*** *aṭiccu*
3SG.M child-OBJ beat-PST
'He beat the child.'

b. *avan* ***pustakam*** **(*-*e)** *vaayiccu*
3SG.M book-OBJ read-PST
'He read the book.'

Malayalam OBJECT-oriented DCM displays an animacy-related STRONG TRIGGER, such that failure to adhere to the marking pattern displayed in (24) results in ungrammaticality. On the other hand, WEAK TRIGGERS do not have a deterministic effect on case-marking patterns, but rather reflect marking tendencies. (25) exemplifies how specificity is a WEAK TRIGGER in Mongolian OBJECT-oriented DCM patterns. As discussed extensively in Guntsetseg 2016, §4, overt case-marking on the OBJECT favours a specific reading, as in (25a), yet both specific and non-specific readings are available where the OBJECT is zero-marked, as shown in (25b):

(25) Mongolian (*mon* — MONGOLIC) [Klein and de Swart 2011, 9, exx. (21)-(22)]

a. *Bold* ***neg ohin-ig*** *unssen*
B a girl-ACC kissed
'Bold kissed a certain girl.'

b. *Bold* ***neg ohin*** *unssen*
B a girl kissed
'Bold kissed a (certain) girl.'

[14] This terminology is adopted from earlier work regarding transitivity splits in ergative systems (cf. Dixon 1994).

The key difference regarding TRIGGER STRENGTH between (24) and (25) lies in the fact that in the latter example the overt case-marking on the nominal is not automatic given the presence of the trigger (e.g., specificity, which can be present also in the zero-marked variant). For several authors, this is a definitional property of FLUID DCM patterns (de Hoop and Malchukov 2007; Klein and de Swart 2011); I choose to talk of WEAK TRIGGERS because while the TRIGGER itself may have a strong or weak effect on the case-marking patterns, a given DCM pattern may be driven by a conspiracy of several STRONG and WEAK TRIGGERS; this is a phenomenon that is generally called 'multi-dimensional DCM' (de Hoop and Malchukov 2007; de Swart 2007; Klein and de Swart 2011), to which I now turn.

It has long been recognized that more than one TRIGGER may be active for a given DCM system (e.g., Bossong 1984, 1985; Aissen 2003), and that the way that these TRIGGERS interact with one another has implications for the distribution of marking alternatives. I briefly outline the OBJECT-oriented DCM patterns attested in Spanish and in Hindi, both of which are driven by animacy- and specificity-related MACRO-TRIGGERS, even if the status of each corresponding TRIGGER is different in each language, affecting the distribution of DCM alternatives in practice.

In broad strokes, in Spanish most OBJECT nominals are left zero-marked. However, the preposition *a* is required on a subset of human-denoting nouns, such that an OPTIONAL-type DCM pattern arises (von Heusinger and Kaiser 2003; Leonetti 2004).[15] Definite human-denoting OBJECTS are obligatorily marked with the preposition, as shown in (26a); although other non-human definite OBJECTS reject this marker. (26b) demonstrates how the preposition is unavailable with an inanimate definite OBJECT, as expected:

(26) Spanish (*spa* — INDO-EUROPEAN, ROMANCE)
[Brugè and Brugger 1996, 3]

a. *esta mañana he visto* *(***a**) ***Juan*** / *(***a**) ***la hermana de María***
this morning have.1SG seen OBJ J / OBJ the sister of M
'This morning I saw John / Maria's sister.'

b. *esta mañana he visto* (*)***a*** ***la nueva iglesia***
this morning have.1SG seen OBJ the new church
'This morning I saw the new church.'

The distribution of the preposition *a* is more complicated where non-definite, human-denoting OBJECTS are concerned. Leonetti (2004, 80) explains that DCM optionally arises with human OBJECTS with the indefinite article, as in the case of (27a), where the specificity status of the doctor is ambiguous. The preposition is rejected altogether where a bare nominal is used, excluding a specific interpretation, as shown in (27b):

(27) a. *busca* (***a***) ***un médico***
look_for.3SG OBJ a doctor
'(S)he is looking for a (particular) doctor.'

b. *necesitan* (*)***a*** ***camarero***
need.3SG OBJ water
'They need a waiter.' [adapted from Leonetti 2004, 80, exx. (2b)-(2c)]

[15] There is some dialectal variation as to the distribution of *a*-marking on animal-denoting nouns (cf. Leonetti 2004, 2008; Malchukov 2008).

Summarizing these facts, Klein and de Swart (2011, 7-9) argue that the language displays two STRONG TRIGGERS, namely, humanness and definiteness, whereas specificity acts as a WEAK TRIGGER. Elsewhere in the literature, a handful of other WEAK TRIGGERS are described as factoring into OBJECT-oriented DCM in the language: e.g., topicalization effects (von Heusinger and Schumacher 2019), affectedness effects (Leonetti 2004; von Heusinger 2008; 2011) — see Fábregas 2013 for an overview. On this basis, the questions of which TRIGGERS are active, and the relative TRIGGER STRENGTH exhibited by each, both merit separate attention.

The distribution of overt case-marking observed in OBJECT-oriented DCM in Hindi is strikingly different from the Spanish pattern outlined above, although the same primary MACRO-TRIGGERS are implicated in both languages. The basic Hindi pattern is displayed in (28). Simplifying considerably, all human-denoting nominals must bear the dative case-marker *-ko*, as shown in (28a): i.e., like Spanish, humanness is a STRONG TRIGGER for this Hindi pattern. Furthermore, this case-marker is available to animal-denoting and inanimate OBJECTS, though its usage typically evokes a definite interpretation, shown in (28b). Nonetheless, (28c) demonstrates that zero-marked inanimate OBJECTS permit both a definite and an indefinite interpretation (Monahan 1990). On this basis, definiteness is a WEAK TRIGGER for Hindi DCM:

(28) Hindi (*hin* — INDO-ARYAN)
[Monahan 1990, cited in Klein and de Swart 2011, 6, exx. (1)-(4)]

a. *Ilaa-ne* ***bacce****(***-ko***) *uthayaa*
I-ERG child-DAT lift.PF
'Ila lifted a/the child.'

b. *Ilaa-ne* ***haar-ko*** *uthayaa*
I-ERG necklace-DAT lift.PF
'Ila lifted the necklace.'

c. *Ilaa-ne* ***haar*** *uthayaa*
I-ERG necklace lift.PF
'Ila lifted a/the necklace.'

Although both animacy- and referentiality-related MACRO-TRIGGERS are active in Hindi and in Spanish, their relative TRIGGER STRENGTH yields different intersective effects in each language. With this we get a glimpse of the complexities of intersective trigger effects, which are characteristic of multi-dimensional DCM patterns.

2.2.3.2 Ambiguity avoidance in the broader DCM picture

Besides semantico-pragmatic TRIGGERS for DCM, this section recognizes a final driver for case-marking alternations: i.e., ambiguity avoidance. In many languages overt case-marking serves to maximize communicative efficiency (Kurumada and Jaeger 2015). This disambiguating function of DCM is well-established in the literature (Aissen 1999, 2003; de Swart 2007; de Hoop and Malchukov 2008; Malchukov 2008; Klein and de Swart 2011). However, many authors explicitly call for this function to be separated from the so-called 'indexing function', which comprises the semantically- and pragmatically-motivated TRIGGERS for DCM patterns outlined above. Following the logic of these authors, this dissertation assigns a special status to the disambiguation-related uses of DCM alternations.

An informative case-study is provided in (29) for Yongren Lolo, whose OBJECT-oriented DCM pattern is strictly motivated by ambiguity avoidance (Gerner 2008). The author describes how the relative ordering of core constituents is free and that a particle, ***tʰie***^{21}, may be placed after the OBJECT-argument in naturalistic speech in order to facilitate the parsing of the sentence. Contrast the unambiguous sentence in (29a) with the freely ordered, zero-marked variants in (29b), where ambiguity results:

(29) Yongren Lolo (*lol* — TIBETO-BURMAN)

[adapted from Gerner 2008, 299, ex. (1)]

a. *ni*^{33} *ʈsʰo*^{21} *pʰo*^{21} *lo*^{33} *go*^{21} *ʑi*^{33} : $_{(i)}$***ŋo***^{33} [$_{(ii)}$***ɕɛ***^{33} ***mo***^{33}
2PL NUM:6 FG.CL:father+daughter return go 1SG snake
tʰie^{21}] *ʈsʰɔ*^{33} *ʑi*^{33} *ne*^{21} *be*^{33}
OBJ follow go like_that say
'(The youngest) said: "You six, (please) go back, I$_{(i)}$ will follow the snake$_{(ii)}$".'

b. i. … $_{(i)}$***ŋo***^{33} [$_{(ii)}$***ɕɛ***^{33} ***mo***^{33}] *ʈsʰɔ*^{33} *ʑi*^{33}
1SG snake follow go
'I$_{(i)}$ follow the snake$_{(ii)}$.' OR 'The snake$_{(ii)}$ follows me$_{(i)}$.'

ii. … [$_{(ii)}$***ɕɛ***^{33} ***mo***^{33}] $_{(i)}$***ŋo***^{33} *ʈsʰɔ*^{33} *ʑi*^{33}
snake 1SG follow go
'I$_{(i)}$ follow the snake$_{(ii)}$.' OR 'The snake$_{(ii)}$ follows me$_{(i)}$.'

In languages like Yongren Lolo, ambiguity avoidance is a dominant factor for DCM. More languages of this type are discussed by de Swart (2007, §3). Nonetheless, in the bulk of DCM languages these effects play a less significant role compared with the TRIGGER-driven alternations which concern this work. As for Siona, I take it as uncontroversial that Siona case-marking is sometimes recruited to maximize communicative efficiency and that this accounts for some of the observed variation, as is already suggested by Bruil (2014, 160) for SUBJECT-oriented DCM. However, this dissertation largely sets aside these matters for future research.

Taking stock: DCM in the typological record

This chapter has provided a cursory summary of the various dimensions of DCM, several of which are often conflated or overlooked in the broader literature. Table 2.1 schematizes the various types of DCM recognized in the typological record on the basis of formal, functional and semantico-pragmatic properties, as addressed in this chapter. This table serves as a reference for the remainder of this dissertation:

Formal dimension	
Alternating type	Two overt case-markers are grammatical to encode a particular grammatical relation (CASE$_1$ vs. CASE$_2$)
Optional type	A single case-marker may be omitted to encode a particular grammatical relation without affecting grammaticality (CASE$_1$ vs. ∅)
Hybrid type	Multiple case-markers alternate to encode a grammatical relation, but case-marking may also be absent (CASE$_1$ vs. CASE$_2$ vs. ∅)
Functional dimension	
Grammatical relations/thematic roles displaying one of the above formal DCM profiles.	
Argumental DCM	Subject, Direct object, Indirect object
Spatiotemporal DCM	Static location, Goal, Source, Path, Temporal expressions, etc.
Oblique DCM	Instrument, Companion, etc.
'Triggers' — The factors driving DCM patterns	
Multi-dimensional DCM has several active TRIGGERS, which may conspire with one another.	
Animacy status	Humanness, animate vs. inanimate (context-insensitive)
Referentiality status	Pronominality, specificity, definiteness (context-sensitive)
Discourse status	Topicality, focus, contrastivity, etc. (context-sensitive)
Predicate-level triggers	Agentivity, affectedness, etc.
Other triggers	Word order, embeddedness/clause type, ambiguity avoidance, etc.
*Trigger strength	Strong trigger: A subset of noun phrases receive a particular alternative, others do not ;
	Weak trigger: A subset of noun phrases are more likely to receive a particular alternative.

Table 2.1: Overview: DCM types for each descriptive dimension