DIFFERENTIAL ARGUMENT MARKING

WITH A SPECIAL FOCUS ON DIFFERENTIAL OBJECT MARKING IN EASTERN ARMENIAN

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Abbreviations

1	First person
2	Second person
3	Third person
ABL	Ablative
ABS	Absolutive
ACC	Accusative
ADJVZ	Adjectiviser
ALL	Allative
AN	Animate
AOR	Aorist
ASP	Aspect
AUX	Auxiliary
CL	Class
COMP	Complementiser
COMPV	Comparative
COND	Conditional
DAT	Dative
DECL	Declarative
DEF	Definite
DEM	Demonstrative
DIR	Direct
DIST	Distal
DYN	Dynamic
ERG	Ergative
F	Feminine
FUT	Future
GEN	Genitive
IMP	Imperative
INAN	Inanimate
INDF	Indefinite
INF	Infinitive
INS	Instrumental
INV	Inverse
IPFV	Imperfective
LOC	Locative
M	Masculine
MED	Medial
MP	Mediopassive
NEG	Negation
NFUT	Non-future
OBJ	Object
OBL	Oblique
OPT	Optative
PART	Particle
PASS	Passive
PFV	Perfective
PL	Plural
POSS	Possessive
PP	Past participle
PRF	Perfect
PROG	Progressive
PROX	Proximal
PRSIND	Present indefinite
PST	Past
PTV	Partitive
REC	Direct case
REFL	Reflexive
REL	Relative
RELPT	Relative particle
RES	Resultative participle
SBJ	Subject
SG	Singular
SIM	Simultaneous
SP	Subject participle
SUB	Subordinator
TR	Transitive

1 Introduction

The term *differential argument marking* (DAM) refers to patterns of argument marking where arguments are treated differently depending on properties of the argument itself or the predicate of the clause. The phenomenon has been receiving more and more attention lately, since it promises fruitful insights on different aspects of grammar and cognition, such as disambiguation of arguments, economy and prominence. The focus of research has so far been on differential marking of core arguments, especially A and O,[1] but other arguments and even adjuncts can be affected as well.

Most authors concentrate on particular instances of DAM, like for example differential O case marking triggered by argument properties in Aissen (2003) or Klein & de Swart (2011), differential O case marking and agreement triggered by argument properties in Dalrymple & Nikolaeva (2011) or Iemmolo (2011), differential A case marking triggered by argument and predicate properties in Arkadiev (2017) or only by animacy in Fauconnier (2011), or differential A and O case marking and agreement triggered by TAM in Malchukov & de Hoop (2011), to name only a few. The most comprehensive overview of the phenomenon of DAM with its different manifestations is Witzlack-Makarevich & Seržant (2018).

The first aim of this thesis is therefore to give a unified account of the phenomena associated with DAM and the functional explanations proposed for them. On this basis, the phenomenon of differential object marking in Eastern Armenian, which has not been described in detail so far, will be studied.

Accordingly, this thesis is divided into two parts. The first part examines the phenomenon of differential argument marking, its morphosyntactic manifestations and underlying motivations from a typological perspective. The second part focusses, relying on corpus data, on the patterns of differential O case marking in Eastern Armenian, as well as its historical and areal background.

[1] In the typological literature the abbreviations S, A, O, T and R are understood differently by different authors, as referring to generalised semantic roles, universal syntactic functions or syntactic contexts defined for comparative purposes (cf. Haspelmath 2011). In this thesis they will be used to designate syntactic contexts, following the Comrian approach advocated also by Haspelmath (ibid.: 562). Thus A and O (or P) refer to the agent and the patient of a prototypical transitive clause (i.e. an action involving an agent and a patient) and any arguments coded the same in the same construction, S refers to the sole argument of a one-argument clause and any argument coded the same in a non-transitive clause, and T and R refer to the theme and the recipient of a prototypical ditransitive clause and any arguments coded the same in the same construction.

2 Differential argument marking

2.1 Definition

Differential argument marking will here be roughly defined as the phenomenon of encoding the same syntactic function differently under different conditions. These conditions comprise inherent and discourse properties of the argument in question (typically animacy, definiteness and information structure) and sometimes also of other arguments in the clause. Properties of the predicate, typically TAM and polarity, can play a role, too, although the differences in marking must not be due to diathesis alternations or even the valency frame of the verb itself.

A well-known example of DAM is the differential O case marking in Spanish illustrated in (1): while the inanimate O in (1a) does not receive any marking, the animate O in (1b) is marked with the preposition *a*.

(1) Spanish (Romance[2]; García García 2007: 63)

a) *conoz-co* *est-a* *película*
know-1SG PROX-F film(F)
'I know this film.'

b) *conoz-co* *a* *est-e* *actor*
know-1SG DAT/ALL PROX-M actor(M)
'I know this actor.'

The term *differential argument marking* is based on the term *differential object marking,* introduced by Bossong (1982; 1985) for a phenomenon found in Sardinian and New Iranian languages. Differential object marking (DOM) is thus the "classical" example of DAM, which has been observed in several languages starting from the 19th century (Filimonova 2005: 78f). Differential marking of the A argument, on the other hand, has often been termed *split ergativity,* especially but not only when it combines with DOM (e.g. Dixon 1979; DeLancey 1981; Garrett 1990; cf. Aissen 2003: 473).

Typically, DAM is described as a contrast between overt case marking and zero marking (e.g. Lazard 2001: 873; Aissen 2003: 435; Malchukov 2008: 205; Key 2012: 239; Sinnemäki 2014: 284). Lazard (2001: 880f) even explicitly excludes alternations of two different markers, treating them as a related phenomenon, whereas Næss (2004: 1203) and Arkadiev (2017: 721) accept this option, too. Other authors include any kind of different coding strategies used for the same syntactic function, comprising both case marking and agreement (e.g. Bossong

[2] Genealogical affiliations as well as language names are given following Glottolog (Hammarström et al. 2021). In the body text, genealogical affiliations are omitted for well-known languages.

1985: 3; Dalrymple/Nikolaeva 2011: 1; Witzlack-Makarevich/Seržant 2018: 3), although Witzlack-Makarevich & Seržant (ibid.) note that "they are different in terms of their functions and triggers and may emerge from different diachronic processes". De Hoop & de Swart (2008: 1) also include diathesis alternations and inverse alignment in their definition and Malchukov & de Hoop (2011), finally, go even further, regarding split ergativity conditioned by tense or aspect as instances of DAM, too. These phenomena, their shared and differing features, as well as the reasons for and against considering them instances of DAM will be discussed in Chapter 2.2.

In the literature, there seems to be no clear consensus whether DAM should be defined as the differential marking of semantic roles or syntactic functions (cf. the overview in Witzlack-Makarevich/Seržant 2018: 2; DeLancey 1981: 626). While the terms *subject* (as used by de Hoop & de Swart (2008) and occasionally by Witzlack-Makarevich & Seržant (2018)) and *object* clearly refer to syntactic functions, *agent* and *goal* (as used by Fauconnier (2011)[3] and Kittilä (2008)) are ambiguous between the corresponding semantic roles and the syntactic functions of A and R. Witzlack-Makarevich & Seržant (2018: 3), although elsewhere using the terms *subject* and *object,* explicitly define DAM in terms of semantic roles. Consequently, as different coding of the same semantic role is often simply the result of differences in the valency of different verbs mapping the same semantic role onto different syntactic functions, authors defining DAM in terms of semantic roles first have to clarify that the difference in marking must not simply be due to verbal valency (e.g. Lazard 2001: 873). Diathesis alternations still fit this definition, so that authors either explicitely exclude them from their definitions as well (like Witzlack-Makarevich & Seržant (2018: 3)) or consider them indeed instances of DAM (like de Hoop & de Swart (2008: 1)).

The reason why it may seem safer to define DAM in terms of semantic roles rather than in terms of syntactic functions may not only be that it is easier to cross-linguistically define and identify semantic roles than syntactic functions but probably also the fact that the phenomenon of DAM to some extent collides with the definition of syntactic functions itself.

While semantic roles describe in which way an argument is participating in an event and are thus based on extra-linguistic criteria, the role of syntactic functions is to provide different morphosyntactic treatments for different arguments. They are usually loosely based on semantic roles, although there is no one-to-one correspondence between a semantic role and a syntactic function. Not only the exact morphosyntactic features of a syntactic function vary

[3] Fauconnier (2011: 533) does indeed specify that she is using *agent* in order to refer to the syntactic function of A.

from language to language but also the inventory of syntactic functions itself. Notions like S, A and O have been introduced in order to allow cross-linguistic comparison, but they are not coded as three different syntactic functions in most languages and may not even correspond to the syntactic functions a language possesses at all.

A syntactic function is characterised by a set of *behavioural* and *coding properties*. Coding properties are the way in which a syntactic function is disambiguated from other syntactic functions by means of head or dependent marking or constituent order (Onishi 2001: 4). The notion of behavioural properties, on the other hand, refers to additional properties like, for example, allowing coreferential omission, certain valency-changing operations or relativisation (ibid.: 8; Zúñiga 2018: 1). While coding properties are language-specific, there are cross-linguistic similarities in the behavioural properties of certain syntactic functions (cf. Onishi 2001: 21f). Behavioural properties and coding properties do not necessarily coincide. On the one hand, semantically less prototypical representatives of a syntactic function may differ in their behavioural properties while showing the same coding properties (cf. Haspelmath 2011: 548). On the other hand, there may be arguments which have the same behavioural properties while being coded differently, so-called non-canonical subjects or objects (Onishi 2001: 8-21).

In language-internal descriptions, the focus is sometimes put on behavioural properties in order to include these non-canonically coded arguments as well (cf. Onishi 2001). When defining S, A, O, T or R for comparative purposes, on the other hand, only coding properties are taken into account and arguments are considered holding the same syntactic function only if they show the same coding (Haspelmath 2011: 548).

Regarding the analysis of the systematic split in coding properties found in DAM systems, there are downsides to both approaches. The first approach, focussing on behavioural properties, puts arguments that are marked differentially but do not differ in their behavioural properties in the category of non-canonically coded arguments (cf. Onishi 2001: 5; Haspelmath 2001: 56). This may fit well with some DAM systems, but it is problematic in cases where two coding strategies do not significantly differ in their frequency (cf. Givón 1979: 52 on the question if a clause with an indefinite or a definite O argument is to be considered more basic). Generally, it raises the question which of the two coding strategies should be considered canonical: the more frequent or the more explicit one? Zero marking may be more frequent in a DAM system, but if one of the coding strategies unambiguously codes the syntactic function in question, it is the overt coding.

The approach focussing on coding properties, on the other hand, poses a serious problem for the definition of DAM in terms of syntactic functions, as it makes "encoding the same syntactic function differently" sound like an oxymoron.

It may therefore, as mentioned above, seem less hazardous not to use the notion of syntactic functions at all but define DAM in terms of semantic roles. Since as a consequence valency and diathesis have to be ruled out as causes of differences in coding, this definition looks, however, a bit like a workaround and slightly obscures the fact that there is indeed a split in coding properties of arguments in the same argument slot of a verb.

But in fact, defining the syntactic function in question, be it in terms of its behavioural or its coding properties, does not need to be the first step in identifying DAM. It suffices to identify that certain arguments hold *the same* syntactic function. This can be done by looking at argument slots instead of syntactic functions or semantic roles in isolation. An argument slot is here defined as follows:

(2) The argument slots of a verb consist of the semantic roles participating in the event each mapped onto one syntactic function.

This approach makes it possible to predict the syntactic functions of the arguments of an individual verb starting from their semantic role. If we do not assume that one verb can assign two different syntactic functions to the same semantic role based on factors that often are not related to the verb itself at all, the safest cross-linguistically applicable way of detecting DAM is to compare arguments in the same argument slot of the same verb.[4] If arguments coded differently can appear in the same argument slot of the same verb, this is an indication of DAM. The differences in coding must, however, be systematic, i.e. found with the same conditions with several verbs,[5] and must not be due to phonologically or lexically conditioned allomorphy.

This approach corresponds to Goddard's (1982: 168) definition of grammatical cases as "classes of mutually interchangeable forms": all forms which can be inserted in the same syntactic context are considered to bear the same case even if, because of syncretism or

[4] This might of course not be fruitful for every verb, as the restrictions on argument selection might in some cases coincide with the differentiation criteria of the language in question (typically animacy or humanness).

[5] Some verbs may allow alternations, like Basque *ahaztu* 'to forget', *gogoratu* 'to remember' and *damutu* 'to regret', which can have an absolutive stimulus and a dative experiencer, an absolutive stimulus and an ergative experiencer or an instrumental stimulus and an absolutive experiencer. As long as these alternations are restricted to a small set of verbs at most and not systematically conditioned by certain properties, it is more appropriate to regard this simply as idiosyncratic valency alternations.

allomorphy, this might not be recognisable based on their morphological form.[6] This can be extended to verbal agreement, too: all forms of agreement triggered by arguments in the same syntactic context encode the same syntactic function. Consequently, the two coding strategies of differentially marked arguments both have to be considered part of the coding properties of the same syntactic function.

Sometimes arguments marked in one way or the other show differences in behavioural properties, too, however (Lazard 2001: 875f, 880; Dalrymple/Nikolaeva 2011: 17; Witzlack-Makarevich/Seržant 2018: 26f). This raises the question if, at least in some languages, the different marking strategies should be regarded as subtypes of a syntactic function rather than just different options for coding. Dalrymple & Nikolaeva (2011: 140f) consider marked and unmarked O arguments to hold the same syntactic function if they show the same behavioural properties. If, however, their behavioural properties differ, they are considered different syntactic functions, *primary* and *secondary objects*.[7] Kittilä (2002: 18), on the other hand, generally considers DAM a transitivity alternation, together with diathesis.

Although DAM is usually differentiated from coding alternations caused by diathesis, diathesis has some functional overlap with DAM and is often conditioned by similar argument properties (cf. DeLancey 1981: 627; see Chapter 2.2). There is considerable overlap also with other phenomena like noun incorporation, inverse alignment and alignment splits.

This means that we are in fact dealing with a set of related phenomena which all consist of some sort of differential treatment of one or more argument roles. Since the conditions triggering these phenomena boil down to a limited set of properties of either the argument(s) or the predicate, they can be understood as sub-phenomena of one overarching phenomenon, which can be differentiated on at least three levels, as schematised in Table 1.

Construction	dependent marking, head marking, word order, incorporation, diathesis, inverse alignment, alignment splits …
Argument	S, A, O, R …
Trigger	argument properties (inherent vs. discourse) vs. predicate properties

Table 1: DAM and related phenomena.

Structurally this overarching phenomenon manifests itself in different constructions, like differential case marking and agreement, diathesis and incorporation. Each argument role can,

[6] This is what Spencer (2006) calls *syntactic case*, as opposed to *morphological case*. While the former corresponds to a certain slot in the syntactic context, the latter refers to the actual morphological marking.

[7] They do not consider them subtypes but simply distinct syntactic functions, but since these syntactic functions are not independent of each other but fill the same argument slot and co-vary consistently, it is probably more appropriate to regard them as subtypes of one syntactic function.

at least in theory, be treated differentially by means of any of these constructions[8] (although agents usually do not seem to be incorporated (cf. Gerdts 1998: 87)), resulting in different instances of the phenomenon, like for example differential case marking of A or incorporation of O. The alternation is triggered by one or more of a range of argument or predicate properties.

This means that instances of this overarching phenomenon in different languages remain distinct sub-phenomena at one level or the other, with specific motivations, diachronic sources and developments. At the same time, two sub-phenomena may be part of the same category at another level. In consequence, differentiating between the different sub-phenomena may be necessary at some point, but may unnecessarily narrow down the picture at another point.

As far as the triggers are concerned, a distinction between restricted case marking in general and the special case of differential case marking, as made by Sinnemäki (2014: 284f), is beneficial since case marking is often influenced by factors which do not allow for fruitful cross-linguistic generalisations. The question is where exactly and on which grounds the line between restricted and differential case marking should be drawn. Sinnemäki (ibid.: 284) himself only briefly mentions that he regards as DOM only patterns conditioned by "animacy, definiteness, information structure, kinship terms, proper/common distinction, or tense/aspect", which at first sight seems to be a rather intuitive definition since these are simply the properties commonly mentioned in connection with DAM. It seems reasonable to exclude arbitrary and language-specific factors like gender or the mere products of sound change, but a category like number is as cross-linguistically applicable as definiteness. Number does, however, not pattern in a uniform way across languages (Comrie 1989: 188; Bickel et al. 2015: 34). Therefore, the best approach indeed seems to be an inductive working definition which includes exactly those parameters which have been found to show similar patterns across languages. This means that in the future, parameters might be added to the list or removed if, on a closer examination, the evidence turns out to be too scarce.

In the following chapters the phenomena and triggers will be discussed in more detail.

[8] The differential treatment may cause the argument to change its syntactic function. Thus an O argument is strictly speaking not an O argument anymore as soon as the clause is passivised, but this construction must still be understood as differential treatment of O.

2.2 Phenomena

2.2.1 Differential case marking

Differential case marking is the prototype of DAM. The term *case marking* is used here as a cover term for any kind of dependent marking of syntactic relations, whether by means of stem alternations, affixes, clitics, adpositions or particles. This coding strategy is sometimes also referred to as *flagging*.

Differential case marking can be *asymmetric* or *symmetric*. Asymmetric DAM systems represent what is most commonly understood under the notion of DAM, namely a contrast between overt and zero marking (cf. Witzlack-Makarevich/Seržant 2018: 23). The overt marker can either have no function other than coding the syntactic function in question or be used for other purposes as well, in the case of O marking typically the expression of dative, genitive, allative or locative (Lazard 2001: 874f). Etymologically, the sources of these O markers include focus particles, adpositions with meanings like 'because of', 'concerning' or 'by', as well as dative markers (ibid.: 875). The dative is not only common synchronically but also diachronically, since many O markers went through a stage where they were used as dative markers (ibid.). A markers, on the other hand, often derive from instrumental or ablative markers (DeLancey 1981: 634).

An example of asymmetric DOM is the Spanish pattern illustrated by (1) in Chapter 2.1, which is here repeated for convenience. The preposition *a*, which also expresses the allative and the dative, is restricted to specific animate O arguments (García García 2007: 63), whereas inanimate O arguments remain unmarked.

(3) Spanish (Romance; García García 2007: 63)

a) *conoz-co* *est-a* *película*
know-1SG PROX-F film(F)
'I know this film.'

b) *conoz-co* *a* *est-e* *actor*
know-1SG DAT/ALL PROX-M actor(M)
'I know this actor.'

In symmetric DAM systems, on the other hand, two markers contrast. Most often one of them is restricted to the syntactic function in question while the other one has an additional function (Lazard 2001: 882), like accusative and partitive in Finnish in (4) or ergative and instrumental in Kuku-Yalanji (Pama-Nyungan; Fauconnier 2011: 538). There are, however, also cases like Evenki (Tungusic; Sinnemäki 2014: 302), Tsakhur (Northeast Caucasian; Kittilä et al. 2011:

18f), Warrwa (Nyulnyulan; Witzlack-Makarevich/Seržant 2018: 24) or Nêlêmwa in (5), where two different accusative or ergative markers are used, in the case of Nêlêmwa based on animacy.

(4) Finnish (Uralic; Malchukov/de Hoop 2011: 35)

a) *Anne* *rakensi* *talo-n*
Anne build.PST.3SG house-ACC.SG
'Anne built a/the house.'

b) *Anne* *rakensi* *talo-a*
Anne build.PST.3SG house-PTV.SG
'Anne was building a/the house.'

(5) Nêlêmwa (Oceanic; Bril 2002: 158, 136, cited in Fauconnier 2011: 538)

a) *kio* *i* *khuxi* *a* *Pwayili*
NEG 3SG eat.TR ERG.AN Pwayili
'Pwayili didn't eat it.'

b) *taxa* *daan* *ru* *wi*
dig road ERG.INAN water
'The water made holes in the road.'

Asymmetric case marking in the strict sense is only possible if a language does have zero marked noun phrases at all (cf. Witzlack-Makarevich/Seržant 2018: 24). However, if one of the two markers is at the same time the most unmarked case used for S arguments as well, the DAM system can still be considered "more asymmetric" than an alternation between two oblique cases like accusative and partitive in Finnish or even two ergatives like in Nêlêmwa (see Chapter 2.4.2).

A variant of symmetric differential A marking mentioned less frequently (although occurring in quite a few languages) is the differential marking of demoted A arguments in passive clauses (cf. Fauconnier 2011: 538f; Zúñiga/Kittilä 2019: 93f). It is found for example in Hup (Nadahup), where a demoted animate A argument like in (6a) is marked with the "object case" (a case that is used for both R and animate O arguments (Epps 2008: 166)), whereas an inanimate A is marked with the oblique case like in (6b).

(6) Hup (Nadahup; Epps 2008: 169, 190)

a) *ʔam* *yãʔám-ăn* *hup=wæd-té-h*
2SG jaguar-OBJ REFL=eat-FUT-DECL
'You'll get eaten by a jaguar!'

b) *mɔhə̃y* *hup=mɛ́h-ɛ́̃y* *tegd'ŭh-út*
deer REFL=kill-DYN tree-OBL
'The deer was crushed by the tree.'

At least with O arguments, symmetric case marking is notably less common than asymmetric case marking and often restricted to certain verb classes (Iemmolo 2013: 380f).

There seems to be a tendency for asymmetric DAM to be conditioned by properties of the argument itself and for symmetric DAM to be conditioned by properties of the predicate (Iemmolo 2013: 380; Witzlack-Makarevich/Seržant 2018: 24) like aspect in the Finnish example (4). There are, however, symmetric DAM systems conditioned by argument properties, too, as we have seen in example (5), as well as asymmetric DAM conditioned by predicate properties. In Hindi, for example, A marking is triggered by the perfective aspect (Malchukov/de Hoop 2011: 36f) and in Burushaski (isolate) by the past tense (Dixon 1979: 95), while in Finnish (Malchukov/de Hoop 2011: 36), Tamasheq (Berber; Seržant 2019: 160) and Rapanui (Polynesian; Kieviet 2017: 392), O arguments are zero-marked in the imperative.

Differential object marking, especially the asymmetric type, is the best known instance of differential case marking and DAM in general. It is not uncommon typologically: Bossong (1985: VIII) was, in the eighties, aware of at least 300 languages with either differential case marking or differential agreement of O, and Sinnemäki (2014: 293, 297) found that 16,5% of the languages in his sample showed differential O case marking conditioned by animacy, definiteness or both (cf. ibid.: 293). In the sample of Bickel et al. (2015: 28), which additionally includes number as a conditioning factor, differential O case marking is found in 27% of the language families.

Differential A case marking, on the other hand, is considerably less common than DOM and more heavily restricted to a few language families, namely 5,5% of the families in Bickel et al.'s (ibid.) sample. But for both O and A, the top two families containing the most languages employing some sort of differential case marking are Indo-European and Pama-Nyungan, followed by Sino-Tibetan (ibid.). In terms of areal distribution, differential case marking is widespread in Eurasia and New-Guinea/Australia even beyond Indo-European and Pama-Nyungan languages (ibid.).

Contrary to most other phenomena discussed here, differential case marking is found not only with arguments but also with adjuncts. For example, place names often do not take locational cases or adpositions (Witzlack-Makarevich/Seržant 2018: 2f). In other languages, the locative is restricted to inanimate NPs (Malchukov 2008: 204) or there are two distinct sets of locational cases for animates and inanimates like in Basque (Creissels/Mounole 2011).

2.2.2 Differential agreement

Differential agreement (or *indexing*) is the head-marking counterpart of differential case marking: the verb agrees with some arguments in a certain syntactic function and does not agree with others holding the same syntactic function. In Nyaturu in (7), for example, only definite O arguments are indexed in the verb while indefinites are not. The same is found in Hungarian (Lazard 2001: 880).

(7) Nyaturu (Bantu; Hualde 1989: 182, cited in Riedel 2009: 51)

a) *n-a-onaa* *mw-alimu*
1SG.SBJ-PST1- see CL1-teacher
'I saw a teacher.'

b) *n-a-mʊ-onaa* *mw-alimu*
1SG.SBJ-PST1-CL1.OBJ-see CL1-teacher
'I saw the teacher.'

In some languages, agreement is restricted to proper names and pronouns, in others arguments have to be high in specificity, topicality, humanness or animacy in order to be indexed (Comrie 1989: 191; Croft 2003: 178f; Riedel 2009: 41, 44-52; Iemmolo 2011: 50). This is not only true for O but also for A arguments, like in Semelai (Austroasiatic), where specific A arguments are indexed and generic ones are not (Malchukov 2008: 215).

Generally, irrespective of the syntactic function, verbal agreement is more likely with first and second persons than with third persons (Goddard 1982: 187). In some Tibeto-Burman languages, if there is a speech act participant in the clause, the verb always agrees with the speech act participant, regardless of its semantic role (DeLancey 1981: 631). Similar patterns are found also in Dargwa languages (Northeast Caucasian; Jacques/Antonov 2014: 309; Forker 2020: 215), the Yuman language Jamul Tipai (Siewierska 2003: 348) and the Eastern Nilotic languages Turkana and Masai (Dimmendaal 1986: 132).

The so-called *clitic doubling* found in Romance, Semitic and Slavic languages, as well as Albanian and Greek, can also be subsumed under the phenomenon of differential agreement. The term refers to the use of an object pronoun cliticised to the verb despite the presence of a coreferential NP or full pronoun (Anagnostopoulou 2017: 811). It is found with O and R arguments and depends on the animacy, definiteness and specificity of the argument in question (ibid.: 833-835).

Dixon (1979: 90) suggests that also the fact that it is common for the third person agreement marker to be zero might be considered an instance of differential agreement, if one analyses this pattern as agreement restricted to first and second persons.

Contrary to differential case marking, differential agreement seems to be always asymmetric, showing a contrast between overt and zero marking. It seems to be conditioned typically by properties of the argument itself and not of the predicate.
Some languages combine differential agreement with differential case marking, only indexing case-marked arguments (Lazard 2001: 880; Iemmolo 2011: 58; cf. Malchukov 2008: 215).

2.2.3 Word order

The third structural strategy employed in distinguishing arguments from each other, word order, can depend on argument properties, too. This is, for example the case in Turkana (Nilotic), as shown in (8): with animate A arguments, constituent order can be either VAO or VOA, while with inanimates only VOA is possible (Dimmendaal 1986: 134f).

(8) Turkana (Nilotic; Dimmendaal 1986: 135; glosses adapted)

a) *k-à-ɲam-ì´* *ayɔŋ`* *a-kìŋàŋ*
1/2.OBJ-1SG-eat-ASP 1SG F-crocodile

b) *k-à-ɲam-ì´* *a-kìŋàŋ* *ayɔŋ`*
1/2.OBJ-1SG-eat-ASP F-crocodile 1SG
'The crocodile is eating/ will eat me.'

c) *k-à-ɲam-ɪt`* *ayɔŋ`* *a-kòrò´*
1/2.OBJ-1SG-eat-ASP 1SG F-hunger

d) **k-à-ɲam-ɪt`* *a-kòrò´* *ayɔŋ`*
1/2.OBJ-1SG-eat-ASP F-hunger 1SG
'I am hungry.' (lit. 'Hunger eats me.')

In Tlapanec (Otomanguean) and some Mayan languages, word order depends on the animacy of the O argument (Dahl/Fraurud 1996: 50) and in some Uralic languages like Hungarian it is conditioned by the definiteness or referentiality of the O argument (Hopper/Thompson 1980: 258). In a number of languages where S arguments generally are preverbal, indefinite and inanimate S arguments tend to be postverbal (Siewierska 1993: 833; Givón 1979: 74). In ditransitive clauses, TR word order is more common with definite or topical T arguments whereas RT is more common with indefinite or focal T arguments (Givón 1979: 82, 161-163). Generally, regardless of their syntactic function, constituents higher in animacy, definiteness or topicality tend to precede constituents lower on these hierarchies (Siewierska 1993: 831). The same is true for shorter and simpler constituents as compared to longer, more complex ones (ibid.). There seems to be a preference for constituents with a lower degree of complexity and information load, as well as referents whose perspective the speaker is more

likely to adopt, to precede other constituents (ibid.). The same can be observed in some languages for the ordering of affixes (ibid.: 834).

2.2.4 Incorporation

Noun incorporation is a construction where a nominal stem is compounded with a verbal stem. The noun is an argument of the verb and the resulting compound serves as the predicate of a clause (Gerdts 1998: 92f). It is characteristic of the polysynthetic type of languages but also found in more analytic languages like Samoan in (9).[9] The incorporated noun is most often a patient (i.e. an O or patient S argument), but it can also be an instrument or a location (ibid.). Agents, recipients or benefactives generally do not seem to be incorporated, although Southern Tiwa (Kiowa-Tanoan) allows incorporation of demoted agents in passive clauses (ibid.: 87). Since the incorporated argument forms a unity with the verb, an incorporated O argument does not count as an O anymore and the clause thus becomes intransitive. This can be observed very well in an ergative language like Samoan, where the ergative-marked A argument of (9a) becomes an absolutive-marked S when the O argument *tama* is incorporated in (9b). There are, however, languages where incorporation does not affect the valency of the clause (ibid.: 88f).

(9) Samoan (Oceanic; Chung 1978, cited in Mithun 1984: 850; glosses adapted)

a) *Po 'o āfea e tausi ai e ia tama?*
Q PART when PRSIND care RELPT ERG 3SG child
'When does he take care of children?'

b) *Po 'o āfea e tausi-tama ai 'oia?*
Q PART when PRSIND care-child RELPT ABS.3SG
'When does he baby-sit?'

In Samoan, like in many languages, incorporation is used with non-referential, non-individuated O arguments and in order to describe institutionalised activities, whereas referential or noteworthy O arguments remain independent (Mithun 1984: 850; Croft 2003: 169). In some languages, however, incorporation is also used to background referents which have already been established (Mithun 1984: 859-862). In (10) the incorporated noun refers to a specific knife whose identity is known to both the speaker and the hearer, but it is backgrounded since it does not add any further information to the answer. Although in this

[9] This more analytic construction is often referred to as *pseudo-incorporation* or *quasi-incorporation* (e.g. Borik/Gehrke 2015; Modarresi 2014: 4 and references therein) or *noun stripping* (Gerdts 1998: 93). This distinction is, however, only relevant from a morphological point of view since the motivations, functions and syntactic consequences remain the same.

case incorporated O arguments are usually referential, both backgrounded arguments and non-referential arguments in institutionalised combinations are not salient.

(10) Huahtla Nahuatl (Uto-Aztecan; Mithun 1984: 861)

A: *Kanke* *eltok* *kočillo?* *Na'* *ni-'-neki* *amanci.*
where is knife I I-it-want now
'Where is the knife? I want it now.'

B: *Ya'* *ki-kočillo-tete'ki* *panci.*
he 3SG>3SG-knife-cut bread
'He cut the bread with it (the knife).'

The incorporability of nouns is affected by animacy as well: in many languages human or animate nouns are not incorporated or only if they are highly generic (Mithun 1984: 863). Inanimate nouns, on the other hand, are obligatorily incorporated in languages like Southern Tiwa (Gerdts 1998: 85). Proper names do not seem to be incorporated at all (ibid.; Croft 2003: 169).

Verbs, on the other hand, are generally more likely to incorporate if their typical O arguments are less animate, agentive or individual and if they affect their O arguments significantly, but also if they have a rather weak and general meaning (Mithun 1984: 863).

2.2.5 Diathesis

Diathesis refers to changes in either the semantic or the syntactic valency of a predicate. Changes in semantic valency mean that participants are added to or removed from the event, as is the case with causatives, applicatives or reflexives. Changes in syntactic valency, on the other hand, consist in mapping the participants of an event onto different syntactic functions, typically with the aim of promoting one of them to the privileged syntactic position and demoting the one holding this position. This is the case with passives and antipassives. Although they do not change the number of participants of the event, passivation and antipassivation typically reduce the number of core arguments and enable or even force the omission of the demoted argument (DeLancey 1981: 634; Zúñiga/Kittilä 2019: 84, 103).

Since DAM is about the differential treatment of the same participants of the same event, diathesis is here understood more narrowly as a change in syntactic valency. Changes in syntactic valency are typically accompanied by detransitivation but they may also leave the number of core arguments unaffected like in the symmetrical voice systems found in

Austronesian languages. Zúñiga & Kittilä (2019: 83, 103) refer to the former as passives and antipassives and to the latter as patient and agent voices.

Morphosyntactically, passives and antipassives are marked while the active tends to be unmarked, but in some languages both the active and the passive or antipassive receive overt marking (Zúñiga/Kittilä 2019: 91, 113)

Passives and antipassives, as well as agent and patient voices, fulfil syntactic, semantic and pragmatic functions (Zúñiga/Kittilä 2019: 89, 111, 126, 132). Typically, passives are used if the A argument is inanimate or indefinite, if the O argument is animate or definite or generally if the O argument outranks the A argument in animacy, definiteness or topicality (Givón 1979: 57; DeLancey 1981: 644; Dahl/Fraurud 1996; Zúñiga/Kittilä 2019: 90). Antipassives, on the other hand, are typically used with weakly individuated or generic O arguments (Lazard 2001: 881f; Zúñiga/Kittilä 2019: 112), with habitual or other imperfective actions (Mithun 1984: 854; Lazard 2001: 883; Zúñiga/Kittilä 2019: 111) or in irrealis clauses (ibid.; Hopper/Thompson 1980: 277). Properties of the A argument seem to be less relevant in triggering antipassivation (cf. Zúñiga/Kittilä 2019: 111-113), although in some Mayan languages the antipassive is used for focussing the A argument (ibid.: 110).

Diathesis alternations can be optional or obligatory (cf. Dahl/Fraurud 1996: 49f). In Yupik (Eskimo-Aleut), indefinite O arguments are obligatorily demoted by antipassivation (Bickel et al. 2015: 27) and in the Tiwa languages, like Picuris in (11), a passive construction is obligatory when the O argument is a speech act participant and the A argument a third person (Haspelmath 2007: 89; Haude/Zúñiga 2016: 449).

(11) Picuris (Kiowa-Tanoan; Zaharlick 1982: 35-41, cited in Haspelmath 2007: 89)

a) *sənene* *ʔa-mǫn-ʔąn*
man 2SG-see-PST
'You saw the man.'

b) *sənene* *Ø-mǫn-ʔąn*
man 3SG-see-PST
'The man saw him.'

c) *ʔa-mǫn-mia-ʔąn* *sənene-pa*
2SG-see-PASS-PST man-OBL
'The man saw you.' ('You were seen by the man.')

2.2.6 Inverse alignment

Inverse alignment is a type of alignment where the morphological form of a transitive predicate indicates whether it is the A or the O argument that ranks higher on a certain

hierarchy. If the action is directed from a higher ranking to a lower ranking participant, the verb is marked as *direct,* in the opposite case it is marked as *inverse*. The hierarchies in question include the features person, obviation (which is related to topicality) and animacy (Jacques/Antonov 2014: 305; Haude 2014: 294, 302; Haude/Zúñiga 2016: 444, 447f).

Morphologically, either both direct and inverse voices are overtly marked or the direct voice is zero-marked (Klaiman 1992: 240).

The inverse system in Plains Cree in (12) is based on person, i.e. speech act participants outrank third persons. When the speech act participant is A as in (12a), the verb is marked as direct, when the speech act participant is O as in (12b), the verb is marked as inverse. The agreement affixes on the verb as well as form and order of the argument NPs are invariant irrespective of their semantic role.[10]

(12) Plains Cree (Algonquian; Wolfart/Carroll 1981: 29, 64, cited in Klaiman 1992: 245; glosses adapted)

a) *ni-wapām-āw* *(nīýa)* *atim*
1-see-DIR 1SG dog
'I see the dog.'

b) *ni-wapām-ik* *(nīýa)* *atim*
1-see-INV 1SG dog
'The dog sees me.'

Inverse alignment relies to a great extent on inherent properties of the argument so that in many cases only either the direct or the inverse form of the clause is a correct representation of a given scenario. However, in scenarios where both arguments are of equal rank, there is often a choice according to pragmatic factors (Klaiman 1992: 236f). Some languages extend the person hierarchy, marking the argument more central to the discourse as *proximate* and the other one as *obviative* and clauses with proximate A and obviative O arguments as direct and the opposite case as inverse (ibid.: 247; Haude/Zúñiga 2016: 446f). In other languages like Zbu Gyalrong (Sino-Tibetan) arguments are not marked for obviation, but in clauses where both arguments are of equal rank, the direct is used when the A argument is more topical and the inverse when the O argument is more topical (Jacques/Antonov 2014: 306). At this point animacy can be a secondary factor, too. In Plains Cree, for example, only animates can be proximate (Haude/Zúñiga 2016: 448).

[10] Some direct-inverse languages do, however, encode syntactic functions by means of word order and case marking or use different person markers for direct and inverse predicates (Klaiman 1992: 234f, 240f). One example is Chukchi (Chukotko-Kamchatkan), which has ergative case marking in both direct and inverse clauses, i.e. the A argument is always case-marked irrespective of whether it ranks higher or lower than O (cf. Dunn 1999: 81, 104, 113, 136, 187, 260).

Inverse alignment is related to diathesis but without the detransitivising effect of passives and antipassives (cf. Klaiman 1992: 242; Zúñiga/Kittilä 2019: 89) and without a clear morphosyntactic promotion and demotion of the arguments involved (cf. Haude/Zúñiga 2016: 451-453). In some languages, like Picuris mentioned in 2.2.5, passives follow indeed the same pattern as inverse systems, and passives are among the sources of inverse markers (Jacques/Antonov 2014: 313f; Zúñiga 2018: 11f).

Inverse marking may be combined with differential case-marking, like in Gyalrong (Sino-Tibetan), where, in addition to inverse marking, lower ranking A arguments are marked with a postposition (DeLancey 1981: 642).[11]

2.2.7 Alignment splits

Alignment splits are observed most often between ergative and accusative alignment. Here the notion is understood in a narrow sense as a complementary distribution of two (or more) alignment types, e.g. S and A receive the same treatment as opposed to O under one condition and S and O receive the same treatment as opposed to A under another condition. The term is, however, sometimes also used more broadly for the restricted use of the ergative or accusative case (e.g. Dixon 1979: 133; Haspelmath 2007: 82f; Fauconnier 2011: 541), i.e. what is here called differential case marking.

There are two major kinds of splits, which are quite different:

The first kind are splits according to argument properties, which typically affect only case marking and not agreement (Dixon 1979: 89). In Dyirbal in (13), third person A and first and second person O arguments receive case marking as in (13a) whereas first and second person A and third person O arguments are unmarked as in (13b) (ibid.: 87). This system is traditionally described as split ergativity, where first and second person show accusative alignment (with O arguments being marked differently from A and S) and third person shows ergative alignment (with A arguments being marked differently from O and S) (cf. Garrett 1990: 262; Dixon 1979: 86f). It can, however, also be analysed as a combination of differential A marking restricted to speech act participants and DOM restricted to third persons.

[11] The distribution of inverse and ergative marking does not exactly overlap, which shows that they are indeed independent processes and that the combination of an inverse predicate with a case-marked A argument cannot be analysed as a passive (cf. DeLancey 1981: 642).

(13) Dyirbal (Pama-Nyungan; Dixon 1979: 112; glosses adapted)

a) *ŋana-na* *ŋuma-ŋgu* *buṛa-n*
1PL-ACC father-ERG see-NFUT
'Father saw us.'

b) *ŋana* *ŋuma* *buṛa-n*
1PL father see-NFUT
'We saw father.'

Since there is no verbal agreement, the possibilities for a split in coding properties are automatically limited to case marking. It may therefore at first sight seem a matter of taste whether one analyses this pattern as split ergativity or differential case marking. However, the distribution of ergative and accusative marking is usually not entirely complementary: the cut-off points for A and O marking often do not coincide, yielding tripartite or neutral marking in some subclasses of nominals (Dixon 1979: 87f; Goddard 1982: 170, 175; Comrie 1989: 131). The analysis as a combination of differential A and differential O case marking is therefore a more straightforward description of this kind of split than positing three different alignment patterns.

The second kind, splits according to TAM, typically involves verbal morphology, too (Dixon 1979: 89), and can thus not simply be reduced to differential case marking. Cross-linguistically, present tense and imperfective aspect are more likely to align accusatively whereas past tense and perfective aspect are more likely to align ergatively (Dixon 1979: 95; Malchukov/de Hoop 2011: 37). In other words, present tense and imperfective aspect favour dependent marking of O but head marking of A, while past tense and perfective aspect favour dependent marking of A but head marking of O.

A very neat instance of TAM-based split ergativity is found in several Iranian languages, like Kurmanji in (14). Unlike Dyirbal, which has distinct ergative and accusative cases, these languages only possess a direct and an oblique case, which are used differently in different tenses or aspects: in the present or imperfective, the direct case marks the A and the oblique case the O argument, whereas in the past or perfective they swap places. The verb, on the other hand, always agrees with the argument in the direct case.

(14) Kurmanji (Iranian; Blau/Barak 1999, cited in Creissels 2009: 448f)

a) *ez* *Sînem-ê* *dibîn-im*
1SG.REC Sinem-OBL see.IPFV-1SG
'I see Sinem.'

b) *min* *Sînem-Ø* *dît-Ø*
1SG.OBL Sinem-REC see.PFV-3SG
'I saw Sinem.'

c) *Sînem-ê* *ez* *dît-im*
Sinem-OBL 1SG.REC see.PFV-1SG
'Sinem saw me.'

In other languages, the split can be more messy. In Georgian (Kartvelian), for example, the present and the perfect behave exactly like the Iranian system, with the nominative and the dative switching places and the verb always agreeing with the nominative argument (Malchukov/de Hoop 2011: 43f). In the aorist, however, a dedicated ergative case is used instead of the dative and verbal agreement is accusative (ibid.: 37). In Gujarati (Indo-Aryan), on the other hand, the verb agrees with the A argument in the imperfective and with the O argument in the perfective, but while the A argument is, as expected, marked with the ergative in the perfective, the O argument remains unmarked in both aspects (DeLancey 1981: 628f).
Malchukov & de Hoop (2011) generally regard TAM-based alignment splits as DAM, too, but the completely symmetrically mirrored swap of alignment in both case marking and agreement found in Kurmanji and partly in Georgian is actually a more complex phenomenon. Like with regular DAM, O arguments are marked under a certain condition and A arguments are marked under a certain condition. Interestingly, the same case marker is used for both A and O arguments instead of dedicated ergative and accusative cases, but more importantly, agreement is the exact mirror image of the case marking pattern as it is always the unmarked argument that is being indexed. This indicates that this kind of alignment split changes the argument that gets to hold the privileged syntactic position: in the present it is the A argument and in the past it is the O argument. TAM-based alignment splits are thus to some extent similar to diathesis, too, and in fact they historically often arise from the reanalysis of passive and, less commonly, antipassive constructions (Garrett 1990: 263; Harris 1985; Plank 1989: 1191).

2.2.8 Similarities, differences and common features

Recalling the definition of DAM as "the phenomenon of encoding the same syntactic function differently under different conditions", it seems reasonable to regard differential case marking and most cases of differential agreement as *DAM proper* and the other phenomena as *DAM-related phenomena*. Both differential case marking and differential agreement are characterised by a split in the coding properties of the same syntactic function, while the clause structure and the other arguments remain unaffected. There are, however, patterns of

differential agreement that do not fit the definition so well: if it is always the most prominent argument in the clause that is indexed, irrespective of its syntactic function or semantic role, we cannot speak of differential marking of a certain syntactic function. These cases thus cannot be considered instances of DAM proper.

It is more difficult for word order to treat one syntactic function differentially without affecting the other(s), since the positions of constituents are always to some extent relative to each other. Often word order rules apply in the same way to any kind of constituent showing certain properties and thus do not mark a certain syntactic function differentially either. An additional difference is that this is the only phenomenon where morphology is not affected. So while some cases of differential word order may fit the definition of DAM proper, their functional motivations still differ from case marking and agreement, as we will see.

Incorporation may be regarded as an extreme instance of DOM, where the object not only lacks marking but ceases to be an independent constituent at all. There are, however, consequences on the morphosyntax of the whole clause, as the clause typically becomes intransitive. Thus the syntactic function of O is, strictly speaking, not encoded differently but deleted.

Diathesis changes the morphosyntactic structure of the whole clause, too, since promoting one argument to the privileged syntactic position usually entails demoting another argument from that position and vice versa. It can therefore not treat only one single argument differentially and is in fact often conditioned by the properties of both arguments relative to each other rather than the properties of one argument. This is even more true for inverse alignment. Diathesis obviously does not lead to the differential encoding of the same syntactic function but maps the same semantic role onto another syntactic function. In the case of inverse alignment, however, the question if the arguments holding the same semantic role hold the same or different syntactic functions in direct and inverse clauses is more difficult to answer (Klaiman 1992: 234; Haude/Zúñiga 2016: 451f). Similarly to diathesis, in split alignment the privileged syntactic position changes from the A to the O argument but, contrary to most cases of diathesis,[12] both clause variants are equally basic and none of them can be considered more complex than the other. Here, too, the syntactic functions change, although the clause remains transitive like in the case of inverse alignment.

[12] Symmetrical voice systems actually behave like alignment splits in this regard.

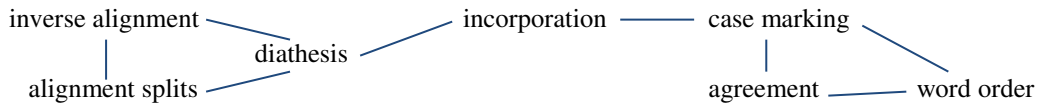

Figure 1: Connections between DAM and related phenomena.

This morphosyntactic classification of the phenomena involved can be schematised as in Figure 1. As far as the triggers are concerned, however, there are primarily two different classes of phenomena: argument-triggered and predicate-triggered.

Argument-triggered phenomena can be *local* or *global.* Local DAM is conditioned by the properties of one argument only, whereas global DAM is conditioned by the properties of more than one argument and the hierarchical relation between them (Witzlack-Makarevich/Seržant 2018: 12). This is, for example, the case in French ditransitive clauses: if R outranks T like in the 1>3 constellation in (15a), it is expressed as a proclitic pronoun, but in (15b), where the third person R is outranked by the first person T, it has to be expressed as a prepositional phrase.

(15) French (Romance; Haspelmath 2007: 91)

a) *Agnès* *me* *la* *présent-era*
Agnès 1SG.OBL 3SG.F.ACC present-3SG.FUT
'Agnès will introduce her to me.'

b) *Agnès* *me* *présent-era* *à* *elle*
Agnès 1SG.OBL present-3SG.FUT DAT 3SG.F
'Agnès will introduce me to her.'

In global DAM, special marking can be found on only one of the arguments, as in (15b), or the constellation of arguments can be marked by means of a so-called *bidirectional case marker* that cannot be clearly related to one of the arguments (cf. Seržant 2019: 160) or a cumulative verbal affix. Global DAM is in fact more common with agreement than with case marking (Witzlack-Makarevich/Seržant 2018: 12). Inverse marking is generally global and Haspelmath (2007) refers to global DAM like in French as inverse, too, but since only the morphosyntax of one argument is affected while the rest of the clause remains the same, there is no reason not to consider it an instance of differential case marking.

Argument-triggered DAM and related phenomena generally rely on the implicational hierarchies of animacy and/or definiteness (Witzlack-Makarevich/Seržant 2018: 31), which Haspelmath (2007: 82) calls *salience hierarchies*. These hierarchies, which are relevant not only in the domain of DAM, have been established based on cross-linguistic patterns as well

as psycholinguistic evidence (Lamers/de Swart 2012: 5). They will be discussed in more detail in Chapters 2.3.1 and 2.3.2.

(16) Animacy hierarchy (Aissen 2003: 437)
human > non-human animate > inanimate

(17) Definiteness hierarchy (Aissen 2003: 437; Croft 2003: 132)
(pronoun > proper name >) definite > specific indefinite > non-specific indefinite

Another hierarchy mentioned less frequently but claimed by Iemmolo (2011) to be crucial in the diachronic development of DOM is the *topical > focal* hierarchy of information structure. Animacy as a trigger is distributed quite evenly across the DAM systems of the world while definiteness is especially widespread in Africa and Eurasia (Sinnemäki 2014: 295f; Witzlack-Makarevich/Seržant 2018: 10). A combination of both is also common, resulting in the crossed hierarchy in Figure 2.[13]

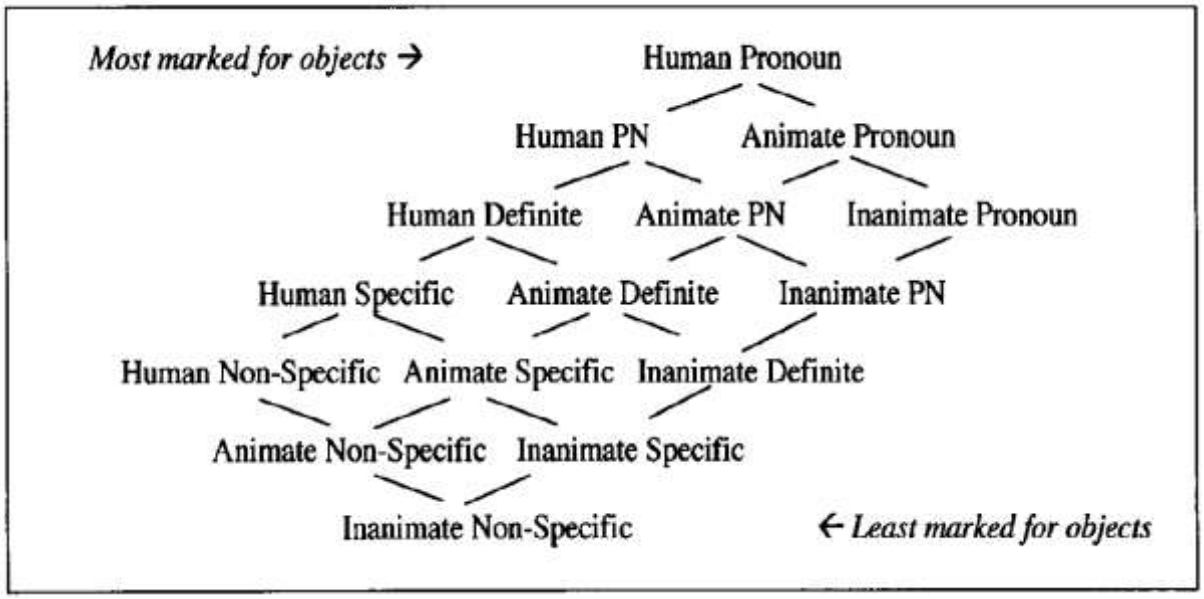

Figure 2: Crossed hierarchy of animacy and definiteness (Aissen 2003: 459).

These hierarchies predict that if an argument with certain properties is treated in a certain way (e.g. receives a certain case marker or triggers a diathesis alternation), the same treatment will apply to all arguments belonging to the classes either higher or lower on the hierarchy than the class in question. In other words, marking (or a certain marker) is possible or even obligatory at one end and impossible or at least optional at the other end. The cut-off point between the two kinds of marking varies from language to language but one kind always

[13] Klein & de Swart (2011: 13) prefer a different model for the combination of the two hierarchies: they apply one hierarchy after the other, i.e. after separating an obligatorily marked or unmarked zone in the first hierarchy, they apply the second hierarchy to the arguments in the remaining zone, again separating a marked zone. If necessary, this can be repeated. This can, however, become rather complex for some DOM patterns.

covers a continuous area, starting from one end. Quite uniformly across languages with asymmetric DAM, O arguments are marked if they belong to the upper zone of the hierarchies and remain unmarked in the lower zone, whereas A arguments are marked either in the upper or the lower zone (Malchukov 2008: 205-208). In some languages, marking is entirely optional (Witzlack-Makarevich/Seržant 2018: 28), and in languages where marking is obligatory at one end, this zone is often followed by a transitional zone of optional marking, where secondary factors are at play (ibid.; Aissen 2003: 460f).[14] Interestingly, within this optional zone, O marking is more frequent in the upper than in the lower part, too (Aissen 2003: 463).

Typically a clear-cut split between obligatory and impossible marking is found rather in the domain of inherent properties whereas a transitional zone is found with discourse properties (Witzlack-Makarevich/Seržant 2018: 29). Klein & de Swart (2011: 4f) relate this difference to the functional difference between triggers and results of DAM: with DAM conditioned by inherent properties or properties overtly marked on the NP, only one option of marking is grammatical in a given utterance. With DAM conditioned by discourse properties which are not overtly expressed, on the other hand, both options are grammatical but express different things. The use of one or the other option thus depends on the intentions of the speaker – in consequence the division is less rigid. Note, however, that "discourse properties" in this case excludes definiteness marked on NPs, as well as the pronoun-noun distinction.

As indicated above, the relevance of these hierarchies is not restricted to DAM proper. Incorporation behaves similarly to DOM, as it is only possible below a certain cut-off point on the hierarchies and may be obligatory in the lowest part. Diathesis tends to follow the hierarchies, too, satisfying a preference for arguments high on both hierarchies to be in the privileged syntactic position and demoting low arguments. Like DAM proper it can be obligatory for some constellations and optional or preferred for others. Inverse alignment relies heavily on the hierarchies of person (which is, as we will see, closely connected to animacy) and topicality, since the form of the predicate depends on the relative location of A and O on these hierarchies.

Predicate-triggered DAM, on the other hand, is conditioned by TAM or polarity, which can affect case marking, diathesis and alignment splits. It is not included in the narrow definition of DAM by Witzlack-Makarevich & Seržant (2018: 17), following the most common understanding of DAM in the literature as an argument-triggered phenomenon. As we will

[14] Symmetric case marking systems can have a transitional zone, too, where both markers are possible (cf. Arkadiev 2017: 727).

see, phenomena triggered by predicate properties differ in their patterns and motivations from those triggered by argument properties, but there is also some overlap.

A third type of DAM can be found in languages where differences in case marking are used in order to convey semantic differences like the degree of volitionality or control of the A or sometimes S argument or the degree of affectedness of the O argument (DeLancey 1981: 629; Witzlack-Makarevich/Seržant 2018: 14; Fauconnier 2011: 541). This type could be termed *DAM triggered by event properties* and it is a borderline case since the differences in marking correspond to slight differences in the semantic role of the argument itself – while being the same argument of the same verb, the argument marked differentially is not exactly the same participant of the same event.

DAM can be restricted to certain clause types like in Turkish, where a type of differential subject marking according to specificity is found in nominalised subordinate clauses only (Witzlack-Makarevich/Seržant 2018: 21). Word order can restrict the contexts where DAM is used, too (ibid.: 28f). In Chinese, for example, where DOM is triggered by animacy and definiteness, only preverbal O arguments can be marked with the particle *bǎ* (Seržant 2019: 158). In other languages, DAM-like alternations are limited to a small set of verbs (Witzlack-Makarevich/Seržant 2018: 22).

2.3 Factors

2.3.1 Animacy and other inherent properties

Animacy is an extra-linguistic property that often manifests itself in the grammar of languages (cf. Dahl/Fraurud 1996). It plays an important role not only in the context of DAM but also in several other domains of grammar, for example many languages, including English, use distinct personal, interrogative or demonstrative pronouns for human and non-human referents (Goddard 1982: 191; Comrie 1989: 191), and referents in the upper part of the animacy hierarchy are cross-linguistically more likely to be marked for number (Croft 2003: 128; Malchukov 2008: 203f) or referred to by an anaphoric pronoun (Dahl/Fraurud 1996: 56) than referents in the lower part. This pervasiveness of animacy in grammar is explained by the fact that humans tend to perceive events from the perspective of humans, especially speech act participants, or at least animals (DeLancey 1981: 638, 645; Dahl/Fraurud 1996: 60; Malchukov 2008: 204), which are thus more salient in discourse.

The animacy hierarchy in the strict sense has been given in (16) but usually an additional difference is made between humans in general and discourse participants (e.g. Dixon 1979: 85; DeLancey 1981: 644; Comrie 1989: 128; Siewierska 1993: 831). In fact, if the underlying

factor of the animacy hierarchy is how easily speaker and hearer can adopt the perspective of the referent in question, this is of course achieved most easily when they themselves are the referents. This is why DeLancey (1981: 644) refers to this hierarchy as *empathy hierarchy*, using Kuno & Kaburaki's (1977) concept of empathy as "the speaker's identification […] with a person who participates in the event that he describes in a sentence" (ibid.: 628). Dixon (1979: 85) claims his hierarchy to represent the *potentiality of agency,* but this has been criticised since there is no difference in agency between first and second persons compared to animate third persons (e.g. DeLancey 1981: 645; Goddard 1982: 187).

Dixon and DeLancey, among others, but not Comrie and Siewierska, locate not only first and second person but also third person pronouns higher on their hierarchies than nouns. While speech act participants are obligatorily human (or in the case of the hearer at least animate) and at the same time the most natural viewpoint for perceiving and describing an action, it is not apparent what should be more animate or empathy-worthy about third person pronouns than about nouns. Thus the question arises whether these pronouns really outrank nouns in animacy or rather in definiteness (the same is true for proper names, included in Dixon's hierarchy). In fact, personal pronouns are inherently definite and therefore highest on the definiteness hierarchy, too (cf. Aissen 2003: 437). Animacy and definiteness both contribute to the prominence of an argument and, as we have already seen, often work together in triggering DAM and possibly other phenomena, too, so that in some cases it may be difficult to completely disentangle them. But languages like Eastern Armenian, where inanimate O arguments are never case-marked, regardless of them being pronouns or nouns (see Chapter 3.2.3), provide a clear counterexample to the claim that third person pronouns generally outrank animate nouns.

Kinship terms, which are the cut-off point for DAM in some languages (Bossong 1985: 129f; Iemmolo 2010: 257; Arkadiev 2017: 727), are not easily assigned to one of both hierarchies either. Bossong (1985: 129f) argues that kinship terms are similar to proper names, which would make the distinction part of the definiteness hierarchy. On the other hand, they might also be more empathy-worthy because they express a close relationship, making the distinction part of the animacy hierarchy. The question is therefore if they pattern cross-linguistically with proper names to the exclusion of other nouns or rather with first and second person pronouns to the exclusion of other animates. Both patterns seem to be attested: the former in Una (Nuclear Trans New Guinea) and Chechen (Northeast Caucasian), the latter in Siuslaw (isolate, North America; cf. Arkadiev 2017: 727).

Witzlack-Makarevich & Seržant (2018: 5f), among others, opt against combining different properties like animacy and person into one hierarchy and for keeping them apart in distinct subhierarchies. The inclusion of grammatical person indeed mixes inherent properties of the referent with discourse properties. On the other hand, speech act participants often behave as if they were "more animate": in contexts favouring animates, speech act participants are especially frequent and in contexts where animates are less frequent, for example in O position, speech act participants are especially infrequent (Dahl 2008: 143). This is in line with the degree of empathy, which is highest with speech act participants.

Another distinction which is kept in a separate subhierarchy by Witzlack-Makarevich & Seržant (2018: 6) but integrated into the animacy hierarchy by Lazard (2001: 878) is the distinction between discrete and mass nouns. Siewierska (1993: 831) instead makes a distinction between inanimate matter and abstract concepts. DeLancey (1981: 644), on the other hand, distinguishes natural forces from other inanimates, which is more or less in line with the distinction between inert and autonomously acting inanimates that Fauconnier (2011: 539) considers crucial regarding differential A marking.

It seems that from a semantic point of view, the properties mentioned can be assigned to at least three distinct but overlapping hierarchies: empathy, agency and the degree to which referents tend to be perceived and treated as individuated.[15] While empathy is relevant in structuring the human domain, agency and individuation are especially important in the inanimate domain.

(18) Empathy hierarchy
1/2 person > (kinship >) other human > higher animal > other animate > inanimate

(19) Agency hierarchy
human > higher animal > other animate > natural force > other inanimate

(20) Individuation hierarchy
human > higher animal > other animate > discrete inanimate > mass > abstract

The hierarchy in (21) is an attempt of combining all these proposed hierarchies into one. Distinctions made in more than one of the subhierarchies in (18)-(20) are represented with >>. Except for the distinction between higher animals and other animates, which is often not

[15] Note that the upper part of the latter hierarchy is in turn based on the empathy hierarchy. Number distinctions are more common in the upper part of the empathy hierarchy (cf. Comrie 1989: 189) "perhaps reflecting greater human concern with entities of higher animacy as individuals, therefore countable, while entities of lower animacy are more readily perceived as an indeterminate mass" (ibid.). In other words, referents whose viewpoint is more likely to be taken are also more likely to be perceived as individuals.

made explicitly, they correspond to the three-way distinction of *human* > *animate* > *inanimate* of the basic animacy hierarchy given earlier in (16).

(21) Animacy hierarchy (extended)
1/2 person > *other human* >> *higher animals* >> *other animate* >> *natural forces* > *discrete inanimate* > *mass* > *abstract*[16]

It remains to be tested to what extent this hierarchy really corresponds to the patterns found in the languages of the world, whether all of the distinctions are indeed relevant[17] and whether it makes more sense to combine empathy, agency and individuation into one hierarchy or to keep them apart. In this regard it is especially interesting to see how marking spreads or regresses diachronically.

In general, it seems both more feasible and more fruitful to establish a hierarchy reflecting rough tendencies instead of including fine-grained distinctions with the aim of precisely capturing any DAM pattern. Not only is it not uncommon, especially in the class of non-human animates, that some but not all members of the rightmost category allowing marking are case-marked, there are also languages where marking leaks into two subsequent categories without completely covering any of them, like the marking of some but not all kinship terms and human-denoting nouns in Yiddish (Aissen 2003: 456) or (concerning the definiteness hierarchy) male personal names and singular common nouns in Dieri (Pama-Nyungan; Goddard 1982: 171). An interesting question is, however, if there are more and less rigid cut-off points, i.e. distinctions which are more and less common cross-linguistically and overridden more and less easily diachronically, and if they correspond to the distinctions found in more than one of the hierarchies in (18)-(20).

Cross-linguistic variation is found especially in the distinction between animals treated like humans and animals treated like inanimates (Aissen 2003: 456f; Comrie 1989: 197). In Bandjalang (Pama-Nyungan), it is "larger and more common" animals that receive accusative marking (Goddard 1982: 190), whereas in Manam (Oceanic) a distinction is made between domesticated and wild animals (Lichtenberk 1983: 110). Here, too, the degree of empathy seems to play a role (cf. Schmidtke-Bode/Levshina 2018: 512). On the other hand, there are also borderline cases between the categories of human and non-human, like mythological

[16] On the basis of the subhierarchies, the arrangement of natural forces and discrete inanimates could also be reversed, but primacy was given to agency because this property is more closely related to animacy than individuation.

[17] In fact, with respect to argument marking, it does not seem to be common to further differentiate the class of inanimates (Comrie 1989: 197), except for autonomously acting vs. inert inanimates (Fauconnier 2011: 539), which would render the individuation hierarchy dispensable.

beings, personification, collective nouns and institutions, as well as metonymical uses of e.g. the name of a country in order to refer to its inhabitants (Dahl/Fraurud 1996: 62).

Dahl & Fraurud (1996: 51), by analysing Swedish corpus data, find that while the arguments in S position only slightly deviate from the overall proportion of person-denoting[18] NPs in the corpus and the proportion of O persons is approximately half of the overall proportion, the overwhelming majority of A and R arguments (what the authors call "non-absolutive position") are person NPs. Conversely, almost half of all person-denoting NPs in the corpus are found in these positions and the proportion is especially high with first and second person pronouns and declining along the definiteness hierarchy (ibid.: 52f). Differences in the hierarchical relations between the arguments are even more striking: in about half of the transitive clauses analysed, the A argument is higher in animacy than the O argument while clauses where the O argument is higher in animacy than the A argument constitute as few as 2,6% (ibid.).[19] Similar tendencies are found in the Sacapultec (Mayan) data analysed by DuBois (1987: 841): while A is always human and S is twice as often human as nonhuman, only 10% of O arguments are human. The reasons for this distribution are not only semantic, but in addition there seems to be a cross-linguistic tendency to choose other constructions, like passives, in order to avoid inanimate A arguments (DeLancey 1981: 644f; Dahl/Fraurud 1996: 49; Fauconnier 2011: 534).

2.3.2 Definiteness, specificity and information structure

Not only inherent but also discourse properties can trigger DAM. While a definiteness hierarchy strictly based on discourse properties would only include the distinction between definite and indefinite and, in the indefinite domain, between specific and non-specific (e.g. Croft 2003: 132; Sinnemäki 2014: 282; Seržant 2019: 154), it is also common to differentiate pronouns and proper names from definite NPs (e.g. Aissen 2003: 443f; Klein/de Swart 2011: 13). They are a borderline case between inherent and discourse properties because, on the one hand, their definite status is inherent to the lexeme (which is why they are treated as inherent properties by Witzlack-Makarevich & Seržant (2018: 6-8)) but, on the other hand, the choice of this lexeme depends on the discourse context. The fact that languages case-marking definite NPs generally case-mark pronouns as well supports their inclusion in the definiteness hierarchy (Aissen 2003: 443f), although there are in fact languages where (definite) NPs are

[18] "Person" refers to humans as well as animals subsequently referred to by a masculine or feminine pronoun (Dahl/Fraurud 1996: 51).

[19] Among the constellations with equal rank of both arguments, non-person + non-person is almost five times as frequent as person + person but, as the authors note, the number of inanimate A arguments might be relatively high in Swedish because predicative possession is expressed by means of a transitive verb (Dahl/Fraurud 1996: 52).

marked but (some) pronouns are unmarked, like Nganasan (Samoyedic) or Georgian (Kartvelian; Filimonova 2005: 93, 95).

The extended definiteness hierarchy has been given in (17) but will be repeated in (22) for convenience. *Pronoun* in this context usually refers to personal and demonstrative pronouns (cf. Dixon 1979: 85; Aissen 2003: 443; Kozinskij 1980: 52-55, cited in Filimonova 2005: 80).

(22) Definiteness hierarchy (extended)
pronoun > proper name > definite > specific indefinite > non-specific indefinite

Definiteness has been defined in terms of identifiability and uniqueness or inclusiveness: for a NP to be definite, the hearer has to be able to identify the referent or the expression must refer to the whole of entities in the given context which satisfy the description (Lyons 1999: 5f, 11). The majority of languages do not mark definiteness on NPs, but the number of languages which do is not small either (ibid.: 48).

Specificity, on the other hand, is strictly speaking independent of definiteness, although in languages marking definiteness, too, it seems to be morphologically distinguished only in indefinite NPs (Lyons 1999: 177). It is often defined as referentiality, which can be paraphrased as "the speaker has the referent in mind" or "the speaker can identify the referent" (von Heusinger 2001: 167) – although referentiality is not necessarily anchored in the speaker (cf. Lyons 1999: 173). There is, however, more to it, since languages with a grammaticalised specificity distinction do not mandatorily treat all referents known to the speaker as specific (Lyons 1999: 178). Givón (1981: 38) describes the distinction between specific and non-specific NPs as "[the referent's] specific identity matters" vs. "only its type matters" and Comrie (1989: 136) refers to this distinction as "relevance of referent identification". In a similar vein, Ionin (2006) defines specificity as *noteworthiness*: for a NP to be marked as specific, there has to be "something noteworthy about the individual" (ibid.: 180f). It is thus not decisive if the identity of the referent is known, but if it is relevant. Accordingly, a specific NP signals that the referent is very likely to play a role in subsequent discourse (cf. Comrie 1989: 135).

A split between pronouns and nouns in case marking is rather common (Arkadiev 2017: 726; Witzlack-Makarevich/Seržant 2018: 7f). Pronominal and nominal case markers are often phonologically and etymologically distinct (ibid.) and case marking may be still preserved on pronouns when it is already lost on nouns (like in English or the Romance languages). The split is, however, not limited to the presence and absence of case distinctions or the allomorphy of markers. While pronouns are more likely to have accusative forms than nouns, nouns are more likely to take the ergative (ibid.). The split can even extend beyond

morphological features: in Lummi (Salishan), the use of a passive is obligatory if the A argument is a NP and the O argument a pronoun (Haspelmath 2007: 94). Thus, while some of the differences can be explained by the different diachronic behaviour of function and content words, others cannot.

Like with animacy, O arguments are more likely to be case-marked at the upper end of the definiteness hierarchy. Differential A marking at the lower end of the definiteness hierarchy seems to be found only with nouns as opposed to pronouns and is interestingly almost always combined with DOM (Næss 2004: 1200). Regarding definiteness proper, i.e. excluding the pronoun-noun distinction, differential A marking seems to occur at the upper end of the hierarchy, just like DOM (cf. Malchukov 2008: 215f). Differential marking of indefinite A arguments does not seem to be attested (Comrie 1989: 130; cf. Malchukov 2008: 214f), instead they rather tend to be avoided by means of other constructions like passives and presentatives (Givón 1979: 72; Comrie 1989: 130). Indefinite O arguments, on the other hand, are avoided in some languages, too, by means of antipassivation or incorporation (Næss 2004: 1191f).

As mentioned in Chapter 2.2.2, verbal agreement is also more likely at the upper end of the definiteness hierarchy, regardless of whether the argument concerned is A or O.

Information structure is connected to definiteness, as topics are most often definite or specific (Iemmolo 2011: 132), and it behaves indeed analogously to definiteness in the case of O but not of A arguments. Just as O arguments are generally more likely to be marked if they are definite, they are also more likely to be marked if they are topical (Witzlack-Makarevich/Seržant 2018: 10), even if they are not referential (Lazard 2001: 878). A arguments, however, are more likely to be marked if they are focal or unexpected (Malchukov 2008: 214f; Fauconnier 2011: 537f; Witzlack-Makarevich/Seržant 2018: 11). There are rare cases of languages differentially marking focal O arguments, too (Lazard 2001: 878f; Witzlack-Makarevich/Seržant 2018: 11), and while differential marking of topical A arguments does not seem to be attested according to Witzlack-Makarevich/Seržant (2018: 11), a counterexample is probably found in Timbe (Nuclear Trans New Guinea), where persistent topics are more likely to take the ergative (Malchukov 2008: 216).

Topicality is the most common trigger of DOM in Iemmolo's (2013: 387f) sample of 133 languages. This preference for marking topical O arguments is reflected in the etymology, too, with O markers deriving from topic-marking adpositions like 'concerning'. Many DOM systems based on definiteness or animacy today seem to have started out as topicality-based (Dalrymple/Nikolaeva 2011: 18; Iemmolo 2013: 389). It may thus be surprising that there are

also focus markers among the sources of O markers (Lazard 2001: 875), but the reason is probably that the majority of focal arguments are O arguments (Witzlack-Makarevich/Seržant 2018: 11) so that the marker might get associated with the syntactic function instead of the information structural status.

O arguments are less biased towards indefiniteness and focality than towards inanimacy: they are about eight times as often inanimate as animate in the Swedish corpus analysed by Dahl & Fraurud (1996: 51) but, as data from different languages shows, not more often indefinite or focal than definite or topical (Givón 1979: 51f; DuBois 1987: 828; Witzlack-Makarevich/Seržant 2018: 11f; Seržant 2019: 163). Following the markedness approach, which will be outlined in Chapter 2.4.12.4.2, this might explain why animacy-triggered DAM is more common cross-linguistically than definiteness-triggered DAM (Witzlack-Makarevich/Seržant 2018: 10). On the other hand, the majority of indefinite or focal arguments are O or S arguments (DuBois 1987: 828; Witzlack-Makarevich/Seržant 2018: 11f). In other words, an O argument is not more likely to be indefinite than definite, but an indefinite argument is more likely to be an O than an A argument.

A arguments are most often definite or topical (Givón 1979: 52; DuBois 1987: 828), focal A arguments may even be disallowed like in Aguacatec (Mayan; DuBois 1987: 847). The same is true for R arguments, which are almost never indefinite in the text counts cited in Givón (1979: 54) for English. In the Swedish data analysed by Dahl & Fraurud, both animate and inanimate NPs are more likely to be found in A or R position the higher they are on the definiteness hierarchy (Dahl/Fraurud 1996: 53).

Inherent and discourse properties do not only often combine in triggering DAM, they are in fact not completely independent. Humans are, for example, more natural topics (Givón 1979: 53; Dahl/Fraurud 1996: 59f), which can be explained by DeLancey's (1981) notion of viewpoint. The step from topicality-based to animacy-based DOM is thus achieved by conventionalising the marking on arguments showing properties typical of topics (Iemmolo 2013: 389). For the same reason, humans are more often referred to by a pronoun than non-humans (cf. Haig/Schnell 2016: 609; Dahl/Fraurud 1996: 56), yielding a humanness bias of pronouns. This is probably the reason why the original hierarchy by Silverstein (1976: 122) and some of its successors (e.g. Dixon 1979: 85; DeLancey 1981: 644) conflate definiteness and animacy into one hierarchy. DAM systems which follow one of the hierarchies independently or have cut-off points at a certain intersection of both show, however, that it is indeed beneficial to separate animacy and definiteness into distinct hierarchies.

2.3.3 TAM and polarity

Although research on DAM has so far mostly focussed on DAM conditioned by argument properties, DAM and related phenomena can also be triggered by properties of the predicate.

If there is an alternation between overt and zero marking, case marking of A is favoured in perfective or past tense clauses and case marking of O in imperfective or present tense clauses, and agreement tends to be the exact mirror image, as we have seen in Chapter 2.2.7. There are also languages where O case marking is suspended in the imperative (Seržant 2019: 160). A difference between less and more marked structures is also found in languages where irrealis clauses demand an antipassive construction like in Ganggalida (Tangkic; Hopper/Thompson 1980: 277).

A somewhat different pattern is found in TAM-based symmetric DAM. An often cited example is the aspect-based DAM in Finnish, where O arguments are marked with the partitive instead of accusative if the action has in some way not reached its endpoint (Witzlack-Makarevich/Seržant 2018: 16).

(23) Finnish (Uralic; Kiparsky 1998: 273, cited in Witzlack-Makarevich/Seržant 2018: 16)

a) *hän* *avasi* *ikkuna-n*
3SG open.3SG.PST window-ACC.SG
'S/he opened the window.'

b) *hän* *avasi* *ikkuna-a*
3SG open.3SG.PST window-PTV.SG
(i) 'S/he was opening the window.'
(ii) 'S/he opened the window (partly).'
(iii) 'S/he opened the window for a while.'
(iv) 'S/he opened the window again and again.'

Although the properties triggering differential marking in TAM-based DAM at first sight only concern the predicate, aspect and mood do have an effect on patients, too, as they are not affected to the same degree by a perfective and an imperfective or by a realis and an irrealis action (cf. Hopper/Thompson 1980: 252). Interestingly, the Finnish partitive is also used in order to refer to an indefinite quantity (Huumo 2009: 50), which cannot be said to be fully affected either.

This is even more true for polarity, which triggers DOM in several European languages (cf. Lazard 2001: 883; Haspelmath 2001: 57) – a patient is not affected at all by an action which does not take place. Polarity may, however, affect the quantification of patients as well. This is decisive in Basque (as well as in French (Haspelmath 2001: 57)), where an alternation between the absolutive in affirmative clauses and the partitive in negative clauses is restricted

to non-specific indefinite O and S arguments and corresponds to a distinction between existent and non-existent, as shown in (24).

(24) Basque (isolate)

a) *ume-a-k* *izozki-a-Ø* *jan-Ø* *d-u-Ø*
child-SG-ERG ice_cream-SG-ABS eat-PFV 3SG.ABS-AUX.TR-3SG.ERG
'The child ate some ice cream.'

b) *ume-a-k* *ez* *d-u-Ø* *izozki-rik* *jan-Ø*
child-SG-ERG NEG 3SG.ABS-AUX.TR-3SG.ERG ice_cream-PTV eat-PFV
'The child didn't eat any ice cream.'

In other languages, however, quantification cannot be considered the trigger of polarity-based DOM: in Slavic languages definite O arguments of negated predicates can receive the genitive, too (Haspelmath 2001: 57), and in Finnish the partitive is used with personal pronouns as well (Huumo 2009: 50f).

Although A arguments can be expected to be more independent of predicate properties than O arguments, since a property of prototypical agents is their existence independent of the event (Dowty 1991: 572), there are languages where the distribution of different ergatives is conditioned by TAM, too (Arkadiev 2017: 751). Polarity-triggered differential A marking, on the other hand, is indeed very rare and does not follow a uniform pattern since the ergative can be restricted either to affirmative or to negative clauses (ibid.: 754f).

Thus, while TAM- and polarity-triggered DAM sometimes indeed results from predicate properties alone, in other cases it actually depends both on predicate and argument properties. This close relation is also reflected by the fact that in Baltic, some Slavic and some ancient Germanic languages it is the same marker, the genitive, that is used in negated sentences and in order to refer to an indefinite quantity (Iemmolo 2013: 383f), just like the Finnish partitive (Huumo 2009: 51). Note, however, that the argument properties that may be conveyed by TAM- or polarity-based DAM constitute a third type besides inherent and discourse properties, namely non-inherent semantic properties.

Predicate properties can also interact with inherent or discourse properties of arguments. In Mordvinic (Uralic), for example, the predicate agrees with a definite O argument, but it does not need to do so if it is imperfective (Lazard 2001: 883). In Nepali (Indo-Aryan), ergative marking is restricted to inanimate A arguments except for the past tense (Fauconnier 2011: 537f). Evenki (Tungusic) distinguishes a definite and an indefinite accusative marker, but in some tenses or aspects only one of them is possible (Iemmolo 2013: 385).

2.3.4 Other factors

The factors discussed so far are the most important triggers of DAM, but especially in the zone of the hierarchies where marking is optional, other factors may come into play (Witzlack-Makarevich/Seržant 2018: 28f).

Information structure, while triggering DAM in some languages, is a secondary factor in others: O arguments for which marking is optional tend to be marked if they are left-dislocated or generally topical (Iemmolo 2013: 389f, 395).

Lexical properties of the verb are another factor at play: O arguments are less likely to be marked and more likely to be incorporated if the verb has little lexical weight or the combination of the O argument with the verb is common and describes an institutionalised activity like 'to open the door' (Mithun 1984: 850; Lazard 2001: 878). In Hungarian, non-referential O arguments can be placed immediately before the verb, but only if they are semantically related and to some degree predictable (Hopper/Thompson 1980: 258). The semantic plausibility of the role assignment in the given event seems to affect marking, too (Seržant 2019: 163). On the other hand, it can be decisive which kind of O argument a verb typically takes: in Hindi, where animate and definite inanimate O arguments are case-marked, verbs which can take only inanimate O arguments, like 'to write', do not allow DOM, and in Spanish, verbs with a preference for human O arguments were the first to allow DOM with full NPs (Primus 2012: 68f).

Affectedness of the O argument is another factor which is often mentioned as conditioning DOM (Næss 2004; Iemmolo 2013: 381, 391, 393, 395f and references therein; Witzlack-Makarevich/Seržant 2018: 14). On the one hand, O marking is said to be more likely with verbs describing actions which affect their O arguments significantly, although at least in Chinese and Spanish this does not hold on closer examination (Iemmolo 2013: 390-396). On the other hand, affectedness can also be influenced by TAM, as mentioned above, or argument properties. Animate or definite arguments are perceived as more affected either because of increased empathy or because they can also undergo a mental change of state (see Chapter 2.4.4). In addition to conventionalised marking of those O arguments which can generally be considered more affected due to argument or predicate properties, O marking can also be used in order to encode contextual degrees of affectedness (Witzlack-Makarevich/Seržant 2018: 14; Iemmolo 2013: 395f).

Finally, Lazard (2001: 878) suggests that the length of the O NP or the verbal complex might have an impact on O marking, too, in that longer complexes are more likely to be marked.

2.4 Explanations

2.4.1 The discriminatory and the identifying function of argument marking

Explanations of DAM generally rely, to different extents, on the two functions argument marking (especially case marking) is considered to fulfil: the discriminatory and the identifying function.

The (global) discriminatory function of argument marking consists in ensuring that in a clause with more than one argument these arguments are always sufficiently disambiguated either by semantics, context, word order or morphological head or dependent marking (Seržant 2019: 152). Ambiguity in this case does not only include possible mix-ups of argument roles but also the interpretation of one NP as modifying the other (ibid.).

In a DAM system employing marking exclusively for discriminatory purposes, for the sake of economy marking is reserved for those cases where semantics, context or word order fail to disambiguate the argument phrases. Synchronically, such systems are rare, most often marking is also found in clauses where the arguments are already disambiguated in other ways (Witzlack-Makarevich/Seržant 2018: 32; Seržant 2019: 152). The discriminatory function is more commonly observed at the border between the zone in the hierarchy where marking is possible and the zone where marking is impossible (Seržant 2019: 153-163): in contexts where there is no other way of disambiguation, disallowed marking can be allowed and optional marking can become obligatory (ibid.). Thus the discriminatory function possibly plays an important role in the gradual expansion of DAM along the hierarchy, which Seržant (ibid.: 155) considers a more plausible explanation for the leap from animates to inanimates than semantic extension.

Conversely, in some languages marking is optional or generally disallowed in cases where there is verbal agreement helping to disambiguate the arguments, or in the imperative, where the addressee is easily identifiable as A and, consequently, the remaining argument as O (ibid.: 160; Dixon 1979: 88; Goddard 1982: 178; Malchukov/de Hoop 2011: 43f). In these cases, the motivation for DAM is purely morphosyntactic and has nothing to do with semantic or pragmatic properties of the argument or the predicate.

The identifying (Malchukov/de Hoop 2011: 36; Witzlack-Makarevich/Seržant 2018: 30), indexing (Malchukov 2008: 208) or local discriminatory function (Seržant 2019: 164) of argument marking, on the other hand, consists in making the syntactic function (or semantic role) of an argument immediately identifiable, independently of the other arguments in the clause and irrespective of whether disambiguation by semantic cues or word order will be

sufficient once the whole utterance is known (ibid.). Marking the degree of volitionality of an A argument or the degree of affectedness of an O argument can also be attributed to the identifying function, since it marks A and O arguments as being more prototypical agents or patients (cf. Witzlack-Makarevich/Seržant 2018: 30). Differential marking that is found on S arguments as well, like the differential marking of S patients in addition to O arguments in Central Pomo (Pomoan) or the ergative marking of S agents in order to express volitionality in Hindi can also only be explained in terms of the identifying instead of the discriminatory function, since there is no need for discrimination in a one-argument clause (Malchukov 2008: 211, 216).

In other cases, the identifying function can be considered a conventionalisation of the global discriminatory function: those arguments or combinations of arguments that need disambiguation most frequently start being marked also in contexts where there is strictly speaking no ambiguity (Seržant 2019: 164; Malchukov 2008: 213). The advantage of this immediate marking of argument phrases is that it does not require the speaker to plan the whole clause in advance and it allows the hearer to incrementally process the utterance without having to wait until enough context is provided, which is probably the reason why marking tends to be conventionalised (Seržant 2019: 164).

Malchukov & de Hoop (2011: 39-43) relate case marking of O arguments in imperfective and of A arguments in perfective clauses to the identifying function, too. They rely, however, on extra-linguistic cues in claiming that the A argument of an ongoing action and the O argument of a completed action are less in need of case marking since they are more easily identifiable in the speech situation.

Note that the discriminatory and the identifying function deal with the coding properties of syntactic functions, especially case marking, rather than with DAM-related phenomena, whose aim is not directly related to better discriminating or identifying the arguments involved.

2.4.2 Markedness

The most common explanation for DAM is the correspondence between morphosyntactic and semantic markedness (e.g. Dixon 1979: 86; Hopper/Thompson 1980: 291; Aissen 2003; Haspelmath 2007: 83). According to this approach, arguments showing properties typical of their argument role tend to be unmarked morphologically or part of an unmarked construction while less prototypical arguments are marked or yield a more complex construction.

Morphosyntactic markedness seems to be usually understood simply as the presence of morphological marking, i.e. a structure B is more marked than a structure A if there is some

element C which marks B as different from A, but there is no such element marking A as different from B (cf. Givón 1979: 47). This definition does not only capture case marking and agreement but also diathesis alternations. Regarding case marking, however, markedness can also be understood in terms of a more restricted distribution of the marker in question: a form is more marked the less syntactic contexts it can appear in, i.e. the accusative is more marked than the nominative because it can only appear in O contexts, whereas the nominative can appear in S and A contexts (cf. Bickel et al. 2015: 10). While the first approach can apply only to asymmetric DAM in the strict sense and not to cases where both classes of arguments bear a morphological marker, the second approach allows a more fine-grained distinction between symmetric and asymmetric DAM with at least four degrees of symmetry, only the last one of which does not show any difference in morphological markedness:

Type I (most asymmetric):

only some classes of arguments are overtly case-marked.

Type II (rather asymmetric):

all classes of arguments are overtly case-marked, but one of the case markers is used for S arguments as well.

Type III (rather symmetric):

there is an alternation between two oblique cases, one of which is restricted to the syntactic context in question.

Type IV (most symmetric):

a) there is an alternation between two oblique cases but neither is restricted to the syntactic context in question.

b) there is an alternation between two case markers restricted to the same syntactic context, i.e. semantically or pragmatically conditioned allomorphy.

Semantic markedness, on the other hand, results from "frequency-based expectations"[20] (Witzlack-Makarevich/Seržant 2018: 32): an argument is considered more marked the less frequent and thus less expected its characteristics are for the argument role in question. Fauconnier (2011: 542) therefore prefers the notion of *unexpectedness* instead of *markedness*, which has the advantage of capturing contextually unexpected arguments as well.

Comrie (1989: 128) describes the "most natural kind of transitive construction" as "one where the A is high in animacy and definiteness, and the P is lower in animacy and definiteness" and states that "any deviation from this pattern leads to a more marked construction". Thus, an A

[20] For a different approach to markedness in the context of DAM, see Næss 2004.

lower on the hierarchies of animacy and definiteness and an O higher on these hierarchies can be expected to yield additional head or dependent marking or to be avoided by means of a less basic construction like a passive (cf. ibid.:128f).

The additional case marking is usually motivated with the discriminatory function of case marking: if the O argument of a clause has properties typical of an A argument (or vice versa), there is a greater risk of confusing the arguments and a greater need to distinguish them by means of case marking (Lazard 2001: 879; Aissen 2003: 437). Based on the identifying function, on the other hand, an O argument with atypical properties can be argued to be in greater need of case marking in order to be still identified as an O.

Marking only arguments which are less frequent and semantically less expected in their semantic role or syntactic function is more economical than generally marking any argument (Aissen 2003: 438; Haspelmath 2008: 14; Sinnemäki 2014: 303f). In fact, in most cases A and O can be sufficiently distinguished based on their semantic properties, which makes additional marking somewhat redundant (Sinnemäki 2008: 72). This is true not only for core arguments but also for differential marking of adjuncts, where the most typical representatives do not receive any marking, like place names not being inflected for locational cases. It also explains why O arguments tend not to be case-marked in institutionalised combinations, where they are highly expectable.

The notion of economy presupposes a difference in complexity between morphosyntactically marked and unmarked arguments. While this difference is quite evident with strictly asymmetric DAM of type I, where overt coding contrasts with zero coding, the presence vs. absence of marking sufficiently explains only a rather small subset of DAM patterns. In fact, even languages with type I asymmetry in singular NPs often show type II asymmetry in the pronominal or plural paradigm, where case is expressed by means of stem alternation, suppletion or cumulative case-number affixes (Witzlack-Makarevich/Seržant 2018: 24f). Morphosyntactic markedness thus seems to be more complex than the mere distinction between overt and zero coding.

The markedness hypothesis generally works well as far as O and R marking is concerned and with some cases of A marking (cf. Aissen 2003: 473; Haspelmath 2007: 83f; Malchukov 2008: 205-207). It can also explain the fact that in some languages with inverse alignment the direct, but never the inverse, is zero-marked. There are, however, other languages with differential A marking where the opposite is true and A arguments receive marking if they are animate or definite and remain unmarked if they are inanimate or indefinite, just as O arguments (Malchukov 2008: 207f).

Although incorporation typically concerns O arguments, there are instances which cannot be explained in terms of markedness either. Incorporation of non-specific O arguments is indeed in accordance with the markedness hypothesis, as they are considered to be the least marked semantically and therefore receive the least morphophonological discreteness. Incorporation of backgrounded thematic referents, however, contradicts the markedness hypothesis since thematic O arguments are pragmatically atypical (cf. Witzlack-Makarevich/Seržant 2018: 10-11).

Passives are a morphosyntactically marked construction used with a semantically marked hierarchical relation between A and O, i.e. an argument combination encountered less frequently. In contrast to case marking, however, in this case the question is not why the construction is restricted but why it is used in the first place. Its motivation is therefore slightly more complex than restricting marking to contexts encountered less frequently. The function of passivation can rather be analysed as mapping arguments with properties less expected in their original syntactic function onto a syntactic function where their properties are more typical.

Most cases of antipassives, on the other hand, cannot be explained in terms of markedness: they are a marked construction, too, but in demoting non-specific O arguments they yield additional marking of clauses with the least marked O arguments. An exception are antipassives used to focus the A argument, since focal A arguments are indeed atypical.

2.4.3 Prominence

Another explanatory approach for DAM claims that an argument is more likely to be overtly head- or dependent-marked the higher it is in prominence, a property which de Swart (2007: 138) defines as "the centrality of an entity in the discourse". Prominence largely depends on animacy and definiteness: the higher an argument ranks on these hierarchies, the more prominent it is (Aissen 2003: 436f; Lamers/de Swart 2012: 5).

The correlation between prominence and case marking is often explained with prototypicality: animate A arguments are more prototypical agents since they are higher in volitionality, while at the same time animate O arguments are more prototypical patients since they are perceived as more affected, because animates can, in addition to a physical change of state, also undergo a mental change of state (Malchukov 2008: 210f; de Hoop/Narasimhan 2008: 65f). Note, however, that this means that exactly the less frequent types of O arguments are supposed to be the more prototypical ones. The question arises if prototypicality is indeed necessary in order to explain the effect of prominence or if it is rather a question of viewpoint: prominent arguments are the ones from whose viewpoint an action is typically perceived (cf. DeLancey

1981: 644f), so that the immediate identification of their role is of greater interest, whereas the roles of the less prominent arguments can be guessed afterwards.

For O arguments markedness and prominence mostly coincide since prominent O arguments are at the same time more marked semantically. Only marking of O arguments in the case of contrastive focus is better explained in terms of prominence, since O arguments are in fact typically focal. Regarding A marking, however, markedness and prominence conflict. Since the typical A is prominent, prominent A arguments should be unmarked according to the markedness approach but marked according to the prominence approach. This conflict is indeed reflected in the differential A case marking patterns of the world: in some languages, A arguments are marked only if they are high on the hierarchies of animacy or definiteness (as predicted by the prominence approach), in others they are marked only if they are low on these hierarchies (as predicted by the markedness approach) (Malchukov 2008: 210).

Agreement, on the other hand, generally seems to follow prominence (cf. Croft 2003: 178; Iemmolo 2011: 50). This is especially apparent in those languages where it is always the most prominent argument that is indexed regardless of its syntactic function or semantic role. It is also true for the agreement patterns in TAM-based alignment splits: since the A argument initiates and carries out the action and the O argument shows the effects of the action after it is completed, the former can be said to be more prominent in the imperfective and the latter in the perfective. The strong link between agreement and prominence has diachronic reasons: agreement markers develop from anaphoric pronouns used for left-dislocated, i.e. topical, constituents (Givón 1976) and topicality, in turn, is closely related to prominence since prominent arguments are most topic-worthy (Dalrymple/Nikolaeva 2011: 50f).

Third person agreement often being zero might also be due to the third person being lower in prominence, as suggested by Dixon (1979: 90), but it is perhaps better explained simply by the higher frequency of third person verb forms in discourse, especially if only the third person singular is concerned.[21]

Word order preferences correspond to prominence rather than markedness, too, with a tendency for placing more prominent arguments at the beginning of a clause regardless of the markedness of their properties with respect to their syntactic function.

[21] Querying for unambiguous aorist verb forms in the Eastern Armenian National Corpus (EANC), which contains oral discourse, fictional and non-fictional texts, gives the following figures:
1st person: 272 131 matches
2nd person: 59 005 matches
3rd person: 1 920 466 matches, 1 602 533 of which are singular and 317 933 plural.
Although these numbers might be somewhat skewed because of the very small percentage of oral discourse in the corpus, the fact that the 3SG outranks first and second person, as well as 3PL, holds also in the subcorpus of oral discourse.

In the case of incorporation, too, prominence can generally explain the behaviour better than markedness. Both non-specific and thematic O arguments can be incorporated, although the former are unmarked as O arguments and the latter are marked – but both have in common that they are low in prominence.

Diathesis alternations seem to be better explained in terms of prominence, too. The function of passives can be analysed as demoting A arguments low in prominence or promoting O arguments high in prominence, whereas antipassivation demotes non-prominent O arguments. The promotion of prominent A arguments does not seem to be a common function of antipassives. This is probably due to the fact that A arguments are in fact most often prominent, and thus in ergative languages high prominence is not linked to the privileged syntactic position as strongly as in accusative languages (although arguments too low in prominence may indeed be dispreferred in this position). Prominence thus neatly explains the asymmetry found between the functions of passivation and antipassivation, too.

If direct and inverse markers are interpreted as marking the expectedness or unexpectedness of the hierarchical relation between A and O, they are best explained in terms of markedness. They could, however, also be analysed as marking whether the more prominent of the two arguments is an A or O argument (like in symmetrical voice systems, see Haude/Zúñiga 2016 for a comparison of the two alignment types).

Differential R marking, however, entirely seems to follow markedness and not prominence since R arguments tend to be zero-marked if they are prominent, i.e. prototypical (Kittilä 2008: 258f). The same is true for differential adjunct marking, where it is the semantically most expected representatives that are zero-marked.

2.4.4 Transitivity

The approaches mentioned so far generally can explain asymmetric DAM better than symmetric DAM and they have difficulties explaining most cases of predicate-triggered DAM. Instead of markedness or prominence, many cases of predicate-triggered DAM rather reflect different degrees of transitivity.

	TRANSITIVITY	HIGH	LOW
A.	PARTICIPANTS	2 or more participants	1 participant
B.	KINESIS	action	non-action
C.	ASPECT	telic	atelic
D.	PUNCTUALITY	punctual	non-punctual
E.	VOLITIONALITY	volitional	non-volitional

F.	AFFIRMATION	affirmative	negative
G.	MODE	realis	irrealis
H.	AGENCY	A high in potency	A low in potency
I.	AFFECTEDNESS OF O	O totally affected	O not affected
J.	INDIVIDUATION OF O	O highly individuated	O non-individuated

Table 2: Parameters of transitivity (Hopper & Thompson 1980: 252).

While transitivity is traditionally understood as the effect of an action being "transferred" from an agent onto a patient or energy flowing from the former to the latter (Hopper/Thompson 1980: 251; Kittilä 2002: 26f), Hopper & Thompson (1980) understand transitivity as a more extensive concept with a wide range of correlations. They identify ten parameters according to which a clause can be more or less transitive, only half of which are linked to the number and semantic roles of the participants involved. Table 2 shows the parameters and the values they take. Although focussing on different facets of the clause, these parameters are not completely independent of each other, as the table format may suggest (cf. Kittilä 2002: 38f): volitionality is restricted by the potency of A, the degree of affectedness of O is correlated with its degree of individuation (Næss 2004: 1202; cf. Malchukov 2008: 211), as only fully individuated O arguments can be said to be fully affected, and it is difficult to imagine a non-action predicate that is telic or punctual. On the other hand, not any set of two parameters do indeed co-vary, A and O properties for example are independent of each other (Moura et al. 2019: 67).[22]

Eventually, Hopper & Thompson motivate all of their parameters with the criterion of the action having an apparent effect on the patient (cf. Hopper/Thompson 1980: 252f). Giving all of the parameters the same weight leads to some one-participant clauses being more transitive than some two-participant clauses, which is indeed intended (ibid.: 254) but has also been criticised because there are clear differences in the typological significance of different parameters (Kittilä 2002: 38). In addition, it reveals the terminological shortcoming of using the same term for a clause containing an agent and a patient and for the more extensive cluster of correlations identified by Hopper & Thompson.

The transitivity approach has a great overlap with the prominence approach, since the five properties of A and O, parameters E and H-J, are all related to prominence. In fact, A

[22] Moura et al. (2019) try to reduce as many parameters as possible to a single parameter and claim that the phenomenon named transitivity by Hopper & Thompson is mostly about individuation of matter and time, capturing the parameters C, F, G, I and J. They argue that the parameters of affirmation, mode and affectedness can simply be reduced to telicity (ibid.: 63), which in turn corresponds to individuated portions of events (ibid.: 78f). Punctuality is also subsumed under telicity (ibid.: 66) although this does not accommodate semelfactives.

arguments high in potency have to be human or at least animate and O arguments of the same event are perceived as more affected the more animate they are because animates are affected not only physically but also mentally (Malchukov 2008: 210f; Kittilä 2008: 260f) and probably also because their viewpoint is more likely to be taken. Individuation is correlated with animacy and definiteness, too (Hopper/Thompson 1980: 253). Prominent arguments thus generally increase the degree of transitivity of a clause. On the other hand, higher transitivity according to one or more of the other parameters may influence DAM in the same direction as prominence. De Hoop & Narasimhan (2008: 65f) use the notion of *strong arguments* in order to refer to arguments of an overall highly transitive clause, i.e. arguments "strengthened" not only by their own but also by clause properties.

According to Hopper & Thompson (1980: 254ff), lower transitivity often manifests itself in some way in the structure of the clause – yielding phenomena like the ones related to DAM. Passives, antipassives and incorporation might be the most obvious examples since they involve detransitivation in the traditional sense. The latter two are triggered by O arguments low in prominence (i.e. low transitivity according to parameters I and J), and yield clauses containing only one core argument (i.e. low transitivity according to parameter A). The same is true for passives triggered by inanimate A arguments, i.e. A arguments low in potency and volitionality (parameters E and H), but not for passives triggered by O arguments high in prominence, which should make the clause more transitive.

With DAM proper there is no morphosyntactic detransitivation, but marking restricted to prominent arguments indicates that only highly individuated objects or agents high in potency are treated as "full arguments" and marked accordingly. This is related to what Lazard (2001: 876) calls "polarisation": case-marked O arguments constitute a "pole" of their own in the proposition, just like the A argument and the predicate, while unmarked O arguments are part of the verbal pole. Therefore case-marked O arguments are more easily dislocated while unmarked O arguments often have to stay in the immediate vicinity of the predicate (ibid.). The same holds for indexed O arguments (ibid.: 880). Like prominence but unlike markedness, this can also explain the marking of O arguments in contrastive focus, since they constitute a pole of their own, too (ibid.: 879).

Transitivity is the only explanation for predicate-triggered symmetric DAM systems like the one in Finnish. The use of the partitive is conditioned by imperfectivity (atelicity in the words of Hopper & Thompson), negation, indefiniteness and quantification. Since the latter two yield lower individuation and affectedness, all of these are properties characteristic of low transitivity. Thus the dedicated O case is restricted to more transitive clauses while in less

transitive clauses a case which is not an O case in the strict sense is used – the O argument of less transitive clauses is, so to say, not a real O structurally. The same holds for DOM triggered by negation, where partitives or genitives are used instead of a "proper" O case (cf. Hopper/Thompson 1980: 276f). The obligatory use of the antipassive in irrealis clauses can be attributed to reduced transitivity as well. Unmarked O arguments in imperative clauses fit the approach, too (ibid.: 277), although the discriminatory function is probably a more straightforward explanation for this phenomenon (as discussed in Chapter 2.4.1).

Transitivity can, however, not explain alignment splits: while the imperfective should be less transitive than the perfective, both show the same amount of case marking and agreement, they are just distributed differently. The same holds for inverse alignment, where both direct and inverse clauses are equally transitive structurally.

2.5 Summary

	Markedness	**Prominence**	**Transitivity**
Case marking			
asymmetric			
A (low)	+	-	-
A (high)	-	+	+
O	+	+	+
R	+	-	0
adjuncts	+	-	0
predicate-triggered	-	-	+
symmetric[23]	-	-	-
Agreement	-	+	+
Word order	-	+	-
Incorporation	-	+	+
Diathesis			
passive	+	+	+-
antipassive	-	+	+
Inverse alignment	+	(+)	-
Alignment splits (TAM-based)			
case marking	-	-	-
agreement	-	+	-

Table 3: Summary of explanations for DAM and related phenomena.

As Table 3 shows, there is no single explanation which captures all phenomena and no clear pattern which would allow to group phenomena, since for most phenomena a combination of different approaches applies. Not included in the summary is the discriminatory function of case marking, which is the most straightforward explanation for some instances of

[23] For the sake of simplicity *symmetric* is here understood only as the alternation of two equally restricted markers, because this is the only case where no hierarchy can be established between the markers, a fact that affects the applicability of different explanations profoundly.

asymmetric differential case marking with purely morphosyntactic motivations. The fact that (asymmetric) DOM is the only phenomenon in line with all three approaches might explain why this is the most common type of DAM cross-linguistically, but, conversely, it might also be an indication that, asymmetric DOM being the most notorious example, explanations have generally centred around this type. It would indeed be interesting to see if there are differences in cross-linguistic frequency between phenomena in line with more and less of these motivations.

While with asymmetric and "rather symmetric" DAM there are differences in the degree of morphosyntactic markedness, which then can be related to certain properties, completely symmetric DAM conforms to the cross-linguistic patterns only insofar as it is sensitive to the same argument or predicate properties and the markers tend to cover contiguous stretches of the same hierarchies. In consequence, motivations of symmetric DAM patterns are not as clear as with more or less asymmetric DAM. If the alternation is between two different cases, like dative and locative used for animate and inanimate demoted O arguments respectively in Yidiny (Pama-Nyungan) antipassive clauses (Comrie 1989: 189), it is at least insightful which argument property is linked to which case.

The distribution of case marking in TAM-based alignment splits is perhaps the most difficult to capture in terms of the approaches discussed. It rather seems to be due to the fact that case marking is most frequently found in more peripheral syntactic functions (Siewierska 1997: 198) and O and A arguments are less central in imperfective and perfective clauses respectively (Malchukov/de Hoop 2011: 37).

Based on this typological overview of DAM and related phenomena, in the following chapters a particular instance of DAM, namely the differential O case marking of Eastern Armenian, will be studied empirically.

3 Differential object marking in Eastern Armenian

3.1 Previous descriptions

Armenian belongs to a separate branch of the Indo-European language family. Modern Armenian is divided into two standard varieties with considerable morphosyntactic differences: Eastern Armenian, spoken in the Republic of Armenia, Nagorno-Karabakh, Georgia and Iran, and Western Armenian, spoken traditionally in Turkey and today mostly in the diaspora (Dum-Tragut 2009: 1f; Donabedian-Demopoulos/Boyacioglu 2007: 55). This

thesis is concerned with Eastern Armenian and thus, unless stated otherwise, *Armenian* is used to refer to Eastern Armenian.

Armenian is a predominantly agglutinative language with 5-6 morphological cases corresponding to 7 syntactic cases, as presented in Table 4. It has accusative alignment and verbs agree with the subject in number and person. Word order is mostly free, with SOV and SVO being most common (Dum-Tragut 2009: 555).

As is apparent from Table 4, the Armenian nominative is zero-marked. An argument being in the nominative thus equals being unmarked. Except for first and second person and singular demonstrative pronouns (Asatryan 2004: 169f), the dative is syncretic with the genitive. They can, however, be distinguished morphologically in that dative NPs can take the suffixed definite article whereas genitive NPs cannot.

<table>
<tr><th>morphological cases of nouns (productive paradigm)</th><th>morphological cases of pronouns (distal demonstrative singular)</th><th>syntactic cases</th></tr>
<tr><td rowspan="2">-Ø</td><td rowspan="2">na</td><td>Nominative</td></tr>
<tr><td rowspan="3">Accusative</td></tr>
<tr><td rowspan="3">-i</td><td rowspan="2">nran</td></tr>
<tr><td>Dative</td></tr>
<tr><td>nra</td><td>Genitive</td></tr>
<tr><td>-ov</td><td>nranov</td><td>Instrumental</td></tr>
<tr><td>-ic’</td><td>nranic’</td><td>Ablative</td></tr>
<tr><td>-owm</td><td>nranowm</td><td>Locative</td></tr>
</table>

Table 4: Morphological and syntactic cases of Eastern Armenian.

Both varieties of modern Armenian have lost the accusative case and extended the nominative to direct objects. Contrary to (standard) Western Armenian (Avetisyan 2007: 61), in Eastern Armenian direct objects can also be marked with the dative.

According to Asatryan (2004: 50f), animate O arguments can take both the nominative and the dative while inanimates only take the nominative, and the matter is complicated by the interference of definiteness. His examples include a dative-marked and an unmarked instance of an indefinite human, given in (25) and (26) respectively, as well as the dative-marked definite non-human animate O in (27) and the unmarked indefinite non-human animate O in (28).

(25) Ոչ մի ուսանողի չեմ տեսել:
oč' *mi* ***owsanoł-i*** *č'-e-m* *tes-el*
NEG one **student-DAT** NEG-AUX-1SG see-PRF
'I haven't seen any student.'

(26) Ոչ մի ուսանող չեմ տեսել:
oč' *mi* ***owsanoł*** *č'-e-m* *tes-el*
NEG one **student** NEG-AUX-1SG see-PRF
'I haven't seen any student.'

(27) Որսորդն սպանեց այդ արջին:
orsord-n *spanec'-Ø* *ayd* ***arǰ-i-n***
hunter-DEF kill-AOR.3SG MED **bear-DAT-DEF**
'The hunter killed that bear.'

(28) Որսորդը արջ սպանեց:
orsord-ə ***arǰ*** *spanec'-Ø*
hunter-DEF **bear** kill-AOR.3SG
'The hunter killed a bear.' (Asatryan 2004: 51)

Avetisyan & Zak'aryan (2012: 149), on the other hand, distinguish between human and non-human instead of animate and inanimate and do not mention definiteness, claiming that humans are generally dative-marked and non-humans generally unmarked. The authors note, however, that the verb *ունենալ ownenal* 'to have' "usually [takes] only a direct object in the nominative, even in the case of person-denoting nouns" (ibid.: 316).

According to Dum-Tragut (2009: 61), the distinction is traditionally made between humans and non-humans but expanding to an animacy distinction in colloquial Armenian. Animals are typically but not necessarily dative-marked and marking is preferred when they are definite or specific (ibid.: 61, 375). With humans, definiteness "also seems to be of importance" (ibid.: 62f), the same is true for specificity (cf. ibid.).

All three grammars (Asatryan 2004: 51; Avetisyan/Zak'aryan 2012: 149; Dum-Tragut 2009: 61f) note that animacy or humanness is not strictly bound to the semantics of the lexeme but contextual: inanimates or non-humans used in an animate or human sense take the dative and animates or humans used in an inanimate or non-human sense take the nominative. While all examples given for the former are personified inanimates, examples given for the latter do not only include the expected metonymical uses of the kind *Have you read Goethe?*, where an animate-denoting noun is used to refer to an inanimate object. Most examples are rather cases where the proposition is about a certain role the referent fulfils rather than about the referent

itself, like in (29). Other examples include ‘S/he has found a good colleague’ (Avetisyan/Zak’aryan 2012: 149), ‘I have lost (my) father’ and ‘An animal knows its master’ (Dum-Tragut 2012: 61f). This pattern might, however, be connected to specificity rather than animacy, since this also means that only the type of the referent is of importance and not its concrete identity.

(29) Նա իր ընկերը կորցրեց:

na	*ir*	*ənker-ə*	*korc’rec’-Ø*
DEM.DIST	REFL.GEN	friend-DEF	lose-AOR.3SG

‘S/he lost his/her friend.’ (Dum-Tragut 2012: 61)

Apart from such rather brief descriptions in grammars, Eastern Armenian DOM has received little attention so far. Scala (2011) dedicates a short paper to the topic, stating that DOM based on animacy and definiteness (or rather specificity) is found in almost all Eastern Armenian dialects. He notes that in the domain of non-human animates, it is usually domestic or large animals that receive the dative, whereas insects (except for bees, which are considered domestic) are usually and plants are always unmarked (ibid.: 474). According to him, animate O arguments are not marked if they are non-referential or generic (ibid.: 476), although he does not clearly state if marking is disallowed in this case or just not required. He also notes that DOM in Eastern Armenian does not directly depend on topicality or affectedness (ibid.: 477).

In the following chapter, the patterns of Eastern Armenian DOM will be analysed based on corpus data.

3.2 Own data

3.2.1 Methodology

The data is taken from the Eastern Armenian National Corpus (EANC), which contains 110 million tokens from texts starting from the middle of the 19th century as well as from oral discourse. The studied subcorpus was obtained by querying the EANC for verbs labelled transitive and extracting the first 4000 matches. Not all of these matches were suitable: First of all, since the corpus is not disambiguated, the match was not always a verb. Second, it was often not transitive, due to ambitransitive verbs being classified as transitive, too, and passive forms being considered part of the paradigm of a transitive verb. Third, in some clauses the O argument was not expressed overtly or it was a subordinate clause, so that it could not be assigned any case value. For the purpose of this study, the noun of noun-verb compounds was not considered an O argument either. However, since the line between typical combinations

and lexicalised units is blurry, noun + verb combinations were considered compounds only if they take an additional direct object or are semantically opaque. In order to increase the yield, in all these cases the first eligible transitive clause of the sentence was chosen instead. If there was no such clause, the sentence was discarded. In the end 2518 clauses remained.

The clauses were annotated for their verb, case marking of the O argument and animacy and definiteness of both O and A. In the domain of animacy three categories were distinguished: animate, collective and inanimate. *Collective* refers to groups of people like *խումբ xowmb* 'group', *սերունդ serownd* 'generation', *ընտանիք əntanik'* 'family', institutions like *բանակ banak* 'army', *հաստատություն hastatowt'yown* 'institution', *իշխանություն išxanowt'yown* 'government, authority' and geographic designations like *երկիր erkir* 'country' and *աշխարհ ašxarh* 'world' referring to their inhabitants. The category *collective* is an a priori classification and it is possible that some of their members generally behave as animates and others as inanimates, although this was not clearly observable in the studied corpus (see Chapter 3.2.3). Semantically they do differ in animacy, with the first group being more animate than the other two.

In the domain of definiteness, three categories were distinguished as well: pronoun, definite and indefinite. The label *pronoun* was used for all pronouns, including not only personal and demonstrative but also relative, interrogative and negative pronouns, although the latter two differ in definiteness from the other pronouns. The category *definiteness* refers to morphological definiteness, which unlike semantic definiteness has an exact and clear delimitation. Thus every argument bearing the definite article or a possessive suffix was labelled definite, although some cases of nominalised adjectives like *մի ուրիշը mi owriš-ə* INDF other-DEF 'another one' and partitive constructions like *դրանցից մեկը dranc'-ic' mek-ə* DEM.MED.PL-ABL one-DEF 'one of those' are semantically indefinite and a relative pronoun bearing the article might as well be considered a pronoun. NPs with the determiner *յուրաքանչյուր yowrak'anč'yowr* 'every', on the other hand, were considered indefinite since they do not take the definite article. A small class of nouns (like *մարդիկ mardik* 'humans' or *կանայք kanayk'* 'women') never take the definite article due to a morphological restriction, these were not assigned any definiteness value. Proper names always bear the definite article and are thus classified as definite NPs.

3.2.2 Distribution of definiteness and animacy across syntactic contexts

Before turning to the patterns of O marking, asymmetries between A and O regarding definiteness and animacy will be examined.

16,5% of the clauses have an impersonal A like the non-finite clause in (30).

(30) Արդեն ընթանում են կազմակերպչական աշխատանքներ՝ այն անցկացնելու նաեւ Փարիզում

arden	*ənt'an-owm*	*e-n*	*kazmakerpč'akan*	*ašxatank'-ner*	***ayn***
already	proceed-IPFV	AUX-3PL	organisational	work-PL	**DEM.DIST**

anc'kac'n-el-ow	***naew***	***P'ariz-owm***
carry_out-INF-DAT	**also**	**Paris-LOC**

'Organisational activities to organise that in Paris, too, are already going on.'

(EANC: Aṙawōt, 2006.12.20)

Of personal A arguments, 66,5% were expressed overtly.[24] In order to maintain comparability between A and O, since clauses with zero O were discarded, in Table 5 the percentages are calculated only for overt A arguments.[25]

	pronoun	**definite**	**indefinite**
A	28,7%	68,1%	3,2%
O	11,0%	53,3%	35,7%

Table 5: Definiteness of A and O.

Both A and O are most often definite, but the proportions of pronouns and indefinite NPs are reversed: in O position, indefinites are more frequent than pronouns, whereas in A position pronouns are more frequent than indefinites. A arguments are, however, considerably more biased than O arguments: O pronouns are still about three times as frequent as indefinite A arguments. The fact that the percentages are not neatly increasing or decreasing along the definiteness hierarchy but rather centre in the middle does not conform to the claim of the markedness hypothesis that a class of arguments should be more frequent in A and less frequent in O position the higher it is on the hierarchy.[26]

	A	**O**
pronoun	59,1%	40,9%
definite	41,5%	58,5%
indefinite	4,8%	95,2%

Table 6: Distribution of pronouns, definite and indefinite NPs across A and O.

[24] In the case of coreferential deletion in coordination the overt antecedent was counted and for converbs the (coreferential) subject of the matrix clause. Zero arguments, on the other hand, also include gapped arguments in participial relative clauses.

[25] It is still possible that the percentages of pronouns are not directly comparable. A pronouns are possibly dropped more easily in Armenian than O pronouns because the verb agrees with A and S but not with O.

[26] Note, however, that the percentage of pronouns is dependent on the role of pronominal vs. zero expression of non-lexical arguments in a language. The percentage of non-NPs in all personal A arguments (including both overt and zero) is 52,6% whereas the percentage of definite NPs in all personal A arguments is 45,2%, thus fitting the hierarchy. This is not the case for O arguments, however, where the hierarchy would predict indefinites to be most common.

Table 6 shows the distribution of the argument classes across the two syntactic contexts. Pronouns are more often A than O arguments and the reverse, with similar proportions, is true for definite NPs. Concerning indefinite NPs, however, only a very small percentage is found in A position. The Armenian data is thus in line with findings from other languages which show that O arguments are not typically indefinite but indefinite arguments are typically O, as mentioned in Chapter 2.3.2. The definiteness hierarchy thus does not describe the relative frequency of the different classes in a certain syntactic position but rather the likelihood of a certain class to be found in A rather than O position. This likelihood indeed decreases along the definiteness hierarchy, starting with pronouns, which supports their inclusion in the definiteness hierarchy as well.

	animate	**collective**	**inanimate**
A	75,8%	10,0%	14,3%
O	15,9%	2,0%	82,1%

Table 7: Animacy of A and O.

Animacy was counted for zero A arguments, too, since it was always recoverable from the context. Table 7 shows the proportions of animate, collective and inanimate arguments in A and O position. As expected, in A position animates are much more frequent than inanimates and in O position the opposite is true. Inanimate A arguments are, however, notably more frequent than indefinite ones, suggesting that the definiteness bias of A arguments is stronger than their animacy bias. This is an interesting fact since unlike animacy, the discourse properties of arguments do not depend on verb semantics. The prevalence of animate A arguments is expectable since "real" agents have to be animate, but there are no such apparent selectional restrictions on definiteness.

Collective nouns are generally infrequent, but as is apparent from Table 8, they seem to pattern with animates rather than with inanimates.

	A	**O**
animate	79,9%	20,1%
collective	80,7%	19,3%
inanimate	12,7%	87,3%

Table 8: Distribution of animate, collective and inanimate arguments across A and O.

Table 8 shows that the distribution of collective nouns is almost exactly the same as the distribution of animate arguments. Collective arguments thus seem to behave like "real animates" in this respect instead of ranking between animates and inanimates.

In order to examine to what extent the distinction between speech act participants and other animates fits the animacy hierarchy, a smaller sample consisting of the first 1000 clauses in the corpus was annotated for person, too.

	A	O
1/2	84,2%	15,8%
other animate	77,6%	22,4%
inanimate	11,5%	88,5%

Table 9: Distribution of 1st/2nd person, other animate and inanimate arguments across A and O.

Table 9 suggests that speech act participants are indeed even more likely than other animates to appear in A instead of O position. Bearing in mind, however, that speech act participants are always pronouns or zero and, thus, generally belong to a class with a preference to be in A position, in Table 10 speech act participants are compared to pronoun and zero third persons.[27] As Table 10 shows, if differences in definiteness are excluded, speech act participants and other animates have exactly the same distribution.

	A	O
1/2	84,2%	15,8%
other animate	84,8%	15,2%
inanimate	46,4%	53,6%

Table 10: Distribution of 1st/2nd person, other animate and inanimate arguments across A and O, excluding NPs.

This is surprising, since speech act participants are in some languages indeed treated as higher-ranking than (animate) third persons. Based on the criterion of likelihood to be in A rather than O position, there is no evidence for a distinction between speech act participants and other animates, but a separate person hierarchy as suggested, among others, by Witzlack-Makarevich & Seržant (2018: 5f) and Haspelmath (2007: 83) seems more appropriate. In Table 11, speech act participants are compared to third person non-NPs regardless of animacy, showing that in this case the likelihood to be in A rather than O position is indeed decreasing.

	A	O
1/2	84,2%	15,8%
3	75,7%	24,3%

Table 11: Distribution of non-NP arguments across A and O according to person.

[27] Since there are no zero O arguments in the corpus, all percentages are somewhat skewed towards A.

3.2.3 DOM patterns

The 2520[28] O arguments in the studied corpus are distributed across the different values of definiteness and animacy as summarised in Table 12.

	pronoun	**definite**	**indefinite**	**neutral**	**total**
animate	158	185	50	9	402
collective	2	40	8	–	50
inanimate	116	1114	838	–	2068
total	276	1339	896	9	2520

Table 12: Number of O arguments in the corpus according to combination of animacy and definiteness values.

Although the annotation distinguished only between animate and inanimate and between definite and indefinite, a further distinction between human and non-human and between specific and non-specific indefinite proved necessary in order to accurately describe the patterns. Specificity is marked in indefinite singular NPs by means of the article *մի mi* (Dum-Tragut 2009: 105) and is thus easily identifiable. Indefinite plural NPs were considered specific if their referents appeared in subsequent discourse or the relevance of their identity was signalled by determiners like *որոշ oroš* 'certain'. Plural NPs for which these criteria do not hold may still be treated as specific if the speaker wants to stress their particular identity or noteworthiness, this is, however, rather difficult to assess objectively.

Apart from individual exceptions which will be discussed in Chapter 3.2.4, inanimates, as in (31), are never marked, whereas definite or specific humans, as in (32), are always marked. The number of specific indefinite humans in the corpus is, however, very small (there are only 6 unambiguously specific human NPs) and the conclusions may therefore not be too reliable.

(31)

a) inanimate pronoun
   Եթե ամբողջ աշխարհը դա ճանաչեր:
   et'e *ambolǰ* *ašxarh-ə* ***da*** *Ø-čanač'-er*
   if whole world-DEF **DEM.MED** OPT-recognise-PST.3SG
   'If the whole world recognised that.' (EANC: Arāwōt, 2006.03.29)

[28] Two clauses contain two coordinated O arguments with different animacy and/or definiteness values, which where counted separately. Therefore the total number of O arguments is higher than the total number of clauses.

b) inanimate definite

Եվ ո՞վ է բերել մուզեյից […] այս շենքերը:

ew	*oˀv*	*ē*	*ber-el*	*mowzey-ic'*	*ays*	***šenk'-er-ə***
and	who	AUX.3SG	bring-PRF	museum-ABL	PROX	**building-PL-DEF**

'And who has brought these buildings from the museum […]?'

(EANC: Derenik Demirčyan, *Erker,* h.6)

c) inanimate indefinite

Դեռևս Հին Եգիպտոսում […] կառուցել են խոր ջրհորներ:

derēws	*Hin*	*Egiptos-owm*	*karowc'-el*	*e-n*	*xor*	***ǰrhor-ner***
still	old	Egypt-LOC	build-PRF	AUX-3PL	deep	**well-PL**

'As early as in ancient Egypt, people built deep wells […].'

(EANC: *Haykakan sovetakan hanragitaran*)

(32)

a) human pronoun

Ասատուրի մոտ տար մեզ:

Asatowr-i	*mot*	*tar-Ø*	***mez***
Asatur-GEN	to	carry-IMP.2SG	**1PL.DAT**

'Take us to Asatur.' (EANC: Mkrtič' Koryown, *Kamo*)

b) human definite

Հունիսի վերջին Պետրոն եկավ եղբորը տեսնելու:

hownis-i	*verǰ-i-n*	*Petro-n*	*ek-av*	***ełbor-ə***	*tesn-el-ow*
June-GEN	end-DAT-DEF	Petro-DEF	come-AOR.3SG	**brother.DAT-POSS3**	see-INF-DAT

'At the end of June, Petro came to see his brother.'

(EANC: Mixayil Šoloxov, *Xałał Donə,* mas 1)

c) human specific

Մեկ էլ տեսավ իրենց կուրսեցի մի աղջկա:

mek_ēl	*tes-av*	*irenc'*	*kowrsec'i*	***mi***	***ałǰk-a***
suddenly	see-AOR.3SG	3PL.REFL.GEN	from_class	**INDF**	**girl-DAT**

'Suddenly he saw a girl from their class.'

(EANC: Šahen Tatikyan, *Nra čanaparhə,* mas 4)

The majority of non-specific humans are unmarked as in (33), but there are 1-3 cases out of 34-36 (depending on what is considered non-specific) that are marked. They will be discussed as exceptions in Chapter 3.2.4, but since the overall number of non-specific humans is rather small, it is difficult to decide if these are marginal exceptions or part of a robust pattern of optional marking. Examples of marked non-specific indefinite humans are found in the grammars of Dum-Tragut (2009: 61) and Asatryan (2004: 51), too. The latter gives the same sentence with and without marking, as we have seen in (25) and (26), indicating that it is indeed optional.

(33) Գուցե, ավելի լավ կլինի տերտե՞ր կանչենք:

gowc'e	*aveli*	*lav*	*k-lin-i*	***terteʾr***	*Ø-kanč'-enk'*
maybe	COMPV	good	COND-be-3SG	**priest**	OPT-call-1PL

'Maybe it would be better if we called a priest?'

(EANC: Varazdat Harowt'yownyan, Nora Melik'yan, *Cicałowm en vanec'inerə*)

Although collective arguments show the same distribution across A and O as animates, their marking is rather heterogeneous: the two pronouns referring to collective nouns, one of them given in (34), are both dative-marked, definite collective O arguments are 65% dative-marked like in (35) and 35% unmarked like in (36), and the 8 indefinite collective arguments present in the corpus, one of them specific, are all unmarked.

(34) Եթե հակառակ բեւեռը զբաղված է ինքն իրեն հանգստացնելով, թե արդեն հաղթել է […]

et'e	*hakaṙak*	*beweṙ-ə*	*zbał-v-ac*	*ē*	*ink'n*	***iren***
if	opposite	pole-DEF	occupy-MP-RES	AUX.3SG	self	**3SG.REFL.DAT**

hangst-ac'n-el-ov	*t'e*	*arden*	*hałt'-el*	*ē*
calm-CAUS-INF-INS	COMP	already	win-PRF	AUX.3SG

'If the opposite side is busy reassuring themselves that they have already won […]'

(EANC: Azg, 2008.02.17)

(35) Պ. Արծրունին ատում է հայ ինտելիգենցիային:

P. Arcrowni-n	*at-owm*	*ē*	*hay*	***inteligenc'ia-yi-n***
P. Artsruni-DEF	hate-IPFV	AUX.3SG	Armenian	**intelligentsia-DAT-DEF**

'P. Artsruni hates the Armenian intelligentsia.' (EANC: Psak, 1880.09.20)

(36) բաժանելով երիտասարդ սերունդը ուսումնարաններում

bažan-el-ov	*eritasard*	***serownd-ə***	*owsowmnaran-ner-owm*
divide-INF-INS	young	**generation-DEF**	school-PL-LOC

'dividing the young generation in the schools' (EANC: Nor Xosk', 1906.08.31)

The number of 50 collective O arguments, 40 of which are definite, is quite small so that it is difficult to make generalisations. Two nouns (*ժողովուրդ žołovowrd* 'people' and *խումբ xowmb* 'group') appear three times, five (*մարդկություն mardkowt'yown* 'humankind', *ընտանիք əntanik'* 'family', *ազգ azg* 'nation', *սերունդ serownd* 'generation' and *երկիր erkir* 'country') appear two times and the remaining 24 only once. Looking at the lexemes, the semantic pattern is not entirely clear: *մարդկություն mardkowt'yown* 'humankind', *ընտանիք əntanik'* 'family', *համայնք hamaynk'* 'community' and *ժողովուրդ žołovowrd* 'people' are always dative-marked, but *բազմություն bazmowt'yown* and *ամբոխ ambox,* both meaning 'crowd', are unmarked and *խումբ xowmb* 'group' appears both marked and unmarked. The

same is true for *սերունդ serownd* ‘generation’, which is unmarked in (36) but marked in (38), and while *ինտելիգենցիա inteligenc’ia* ‘intelligentsia’ is marked in (35), its native Armenian equivalent *մտավորականություն mtavorakanowt’yown* is unmarked in the corpus. The geographical terms *երկիր erkir* ‘country’ and *աշխարհ ašxarh* ‘world’ are unmarked but *ՀՀ HH (Hayastani Hanrapetowt’yown)* ‘Republic of Armenia’ is marked. *Իշխանություն išxanowt’yown* ‘government, authority’, *ընդդիմություն ənddimowt’yown* ‘opposition’ and names of media companies are marked but *բանակ banak* ‘army’, *հաստատություն hastatowt’yown* ‘institution’ and the name of a political party are unmarked.

Lexemes occurring more than once are consistent in their marking, except for *խումբ xowmb* ‘group’ and *սերունդ serownd* ‘generation’. (37) suggests that there is a contextual semantic distinction: in (37a) ‘group’ is used in order to collectively refer to certain people, while in (37b) it is construed rather as a structural unit. This applies to the third, unmarked, occurrence of ‘group’, too.

(37)

a) լուրեր, թե […] Հայաստան են բերել ոչ թե «Տատու» խմբին, այլ աղջիկների նմանակներին

lowr-er	*t’e*	*Hayastan*	*e-n*	*ber-el*	*oč’_t’e*	*Tatow*
rumour-PL	COMP	Armenia	AUX-3PL	bring-PRF	not	Tatu

xmb-i-n	*ayl*	*alǰik-ner-i*	*nmanak-ner-i-n*
group-DAT-DEF	but	girl-PL-GEN	lookalike-PL-DAT-DEF

‘rumours that [they] have brought to Armenia not the group “Tatu” but lookalikes of the girls’ (EANC: Aṙawōt, 2006.11.21)

b) Զրկվեց «Ագրոարդյունաբերողներ» խումբը ղեկավարելու հնարավորությունից:

zrk-vec’-Ø	*Agroardyownaberoł-ner*	***xowmb-ə***	*łekavar-el-ow*
deprive-MP-AOR.3SG	agroindustrial-PL	**group-DEF**	lead-INF-GEN

hnaravorowt’yown-ic’
opportunity-ABL

‘He was deprived of the opportunity to lead the group “Agroindustrials”.’

(EANC: Aṙawōt, 2002.11.06)

A similar difference can, however, not be found between (36) and (38):

(38) Այսօրվա երիտասարդությունը վաղը փոխարինելու է մեզ՝ ավագ սերնդին:

aysor-va	*eritasardowt'yown-ə*	*vałə*	*p'oxarin-el-ow*	*ē*	*mez*
today-GEN	youth-DEF	tomorrow	replace-INF-FUT	AUX.3SG	1PL.DAT

avag	***sernd-i-n***
older	**generation-DAT-DEF**

'Today's youth is going to replace us, the older generation, tomorrow.'

(EANC: Erekoyan Erewan, 1964.05.19)

The dative marking of the NP in (38) might be influenced by the dative pronoun to which it is an apposition. An alternative reason might be that (36) is half a century older than (38). The dative-marked occurrences are indeed more recent on average, as Table 13 shows. The correlation is, however, not as strong as it might seem at first glance: while the mean and especially the median year of occurrence of dative-marked collective nouns is notably later than for unmarked collective nouns, the earliest occurrence is also found among the dative-marked nouns. It is the noun *ինտելիգենցիա inteligenc'ia* 'intelligentsia', whose synonym *մտավորականություն mtavorakanowt'yown* 40 years later appears unmarked.

	earliest occurrence	**latest occurrence**	**mean**	**median**
NOM	1906	2006	1970,18	1981,5
DAT	1880	2007	1983,37	2005

Table 13: Year of occurrence of unmarked and dative-marked definite collective nouns.

The marking of collective nouns thus seems to depend both on the lexeme and on contextual semantics, although the pattern is rather vague. Other possible factors like topicality or verbal semantics are at least not apparent at first glance, but since there are only two minimal pairs of marked and unmarked instances of the same lexeme, it is rather difficult to assess the influence of factors that are not connected to the lexeme. Dative marking seems, however, to be slightly increasing over time.

As for the distinction between humans and non-human animates, the corpus does not contain robust data either. Plants are treated as inanimate and always unmarked as in (39), but for animals the picture is more complex.

(39) Ծառերն ապօրինաբար հատել է անտառապետ Ա. Սարգսյանը:

caṙ-er-n	*apōrinabar*	*hat-el*	*ē*	*antaṙapet*	*A. Sargsyan-ə*
tree-PL-DEF	illegally	fell-PRF	AUX.3SG	forester	A. Sargsyan-DEF

'Forester A. Sargsyan has felled the trees illegally.' (EANC: Aṙawōt, 2007.01.18)

There are only 23 animals in O position. Of the 14 definite animals, 7 (two of which are part of the same clause) are dative-marked and 7 are unmarked, the only pronoun is marked and

the 8 instances of indefinite animals are all unmarked, they are, however, all non-specific. The marked animals are *կատու katow* 'cat', *շուն šown* 'dog' (which appears two times), *գայլ gayl* 'wolf', *ձի ji* 'horse' (which appears two times), *մատակ matak* 'mare' and *կենդանի kendani* 'animal'. Three of the unmarked definite animals are *ձի ji* 'horse', too, two are *տավար tavar* 'cattle', one is *ոչխար oč'xar* 'sheep' and one is *ճիճու čičow* 'worm'. All animals except for the latter one belong to the group of larger and/or domestic animals, but unlike the dative-marked animals, sheep and cattle are typically perceived as a collective and thus less individuated. It is thus possible to identify a semantic pattern in the marking of animals, although 'horse' appears both marked and unmarked. In this case, however, a contextual semantic distinction can be observed: the horse in (40b), unlike (40a), is construed as a means of transportation rather than an animate being, which is true for the other two unmarked horses in the corpus as well. Marking of animals thus seems to be sensitive to contextual semantics, too.

(40)

a) Ձիուն արձակել է արոտի:

ji-ow-n	*arjak-el*	*ē*	*arot-i*
horse-DAT-DEF	release-PRF	AUX.3SG	pasture-DAT

'He has released the horse to the pasture.'

(EANC: Mowšeł Galšoyan, *Ginarb całik, Ōǰaxi terə*)

b) Բենասին արագ շուռ տվեց ձին, դեպի ետ սուրաց […]

Benasi-n	*arag*	*šowr̄_tvec'-Ø*	***ji-n***	*depi*	*et*	*sowrac'-Ø*
Benassis-DEF	fast	turn_around-AOR.3SG	**horse-POSS3**	towards	back	dash-AOR.3SG

'Benassis quickly turned his horse around, dashed back […]'

(EANC: Ōnore də Balzak, *Gyowłakan bžišk*)

According to Dum-Tragut (2009: 61), dative marking is gradually spreading from humans to animals. As Table 14 shows, dative-marked occurrences of definite animals in the corpus indeed tend to be more recent than unmarked occurrences, just like in the case of collective nouns. The very early first occurrence of an unmarked animal is an outlier, as the second occurrence is almost a century later, in 1937, but nevertheless the median of unmarked animals is almost thirty years earlier than the median of dative-marked animals.

	earliest occurrence	**latest occurrence**	**mean**	**median**
NOM	1841	1986	1942,86	1956
DAT	1966	2003	1983,43	1985

Table 14: Year of occurrence of unmarked and dative-marked definite animals.

In order to verify the impression that dative marking of non-human animates, i.e. collective nouns and animals, is increasing over time, a statistical analysis was carried out. It was done in R version 4.1.0 (R Core Team 2020) and the built-in STATS package. First of all, the following ratio was computed for each year:

$$case\ ratio\ = \frac{number\ of\ occurrences\ of\ case}{total\ number\ of\ occurrences}$$

An Analysis of Variance (ANOVA) was computed with Case Ratio as independent variable and Year, Case (Nominative, Dative) and Type (Animal, Collective) as dependent variables. As is apparent from Table 15, a significant effect at the 1% level was observed for Year, but Case and Type failed to reach significance.

	Df	**Sum Sq**	**Mean Sq**	**F value**	**p value**
Case	1	0.04499	0.04499	0.8581	0.360621
Year**	1	0.56025	0.56025	10.6855	0.002426
Type	1	0.00335	0.00335	0.0639	0.801906
Residuals	35	1.83506	0.05243		

Table 15: ANOVA results. Significance levels are marked as follows: * = p<0.05, ** = p<0.01, *** = p<0.001.

In order to test whether the observed trend of a decreasing number of nominative-marked arguments and an increasing number of dative-marked arguments per year is statistically significant, linear regression models of the form

Case Ratio ~ Year

were computed for each case. The results are reported in Table 16. The linear regression models show that the factor year is significant at the 5% level, indicating that the observed trend is not a coincidence. In other words, in the optionally marked class of non-human animates there is indeed a slight increase of dative marking over time while nominative marking is decreasing. Figure 3 shows the data points with the linear fits for each case.

Case	**Parameter**	**Estimate**	**Standard Error**	***t***	**p value**
Nominative	(Intercept)*	9.038913	3.434221	2.632	0.0189
	Year*	-0.004193	0.001749	-2.397	0.0300
Dative	(Intercept)**	5.2097972	1.8141931	2.872	0.00943
	Year*	-0.0022061	0.0009233	-2.389	0.02684

Table 16: Results of linear regression models run on the data for each case. Significance levels are marked as follows: * = p<0.05, ** = p<0.01, *** = p<0.001

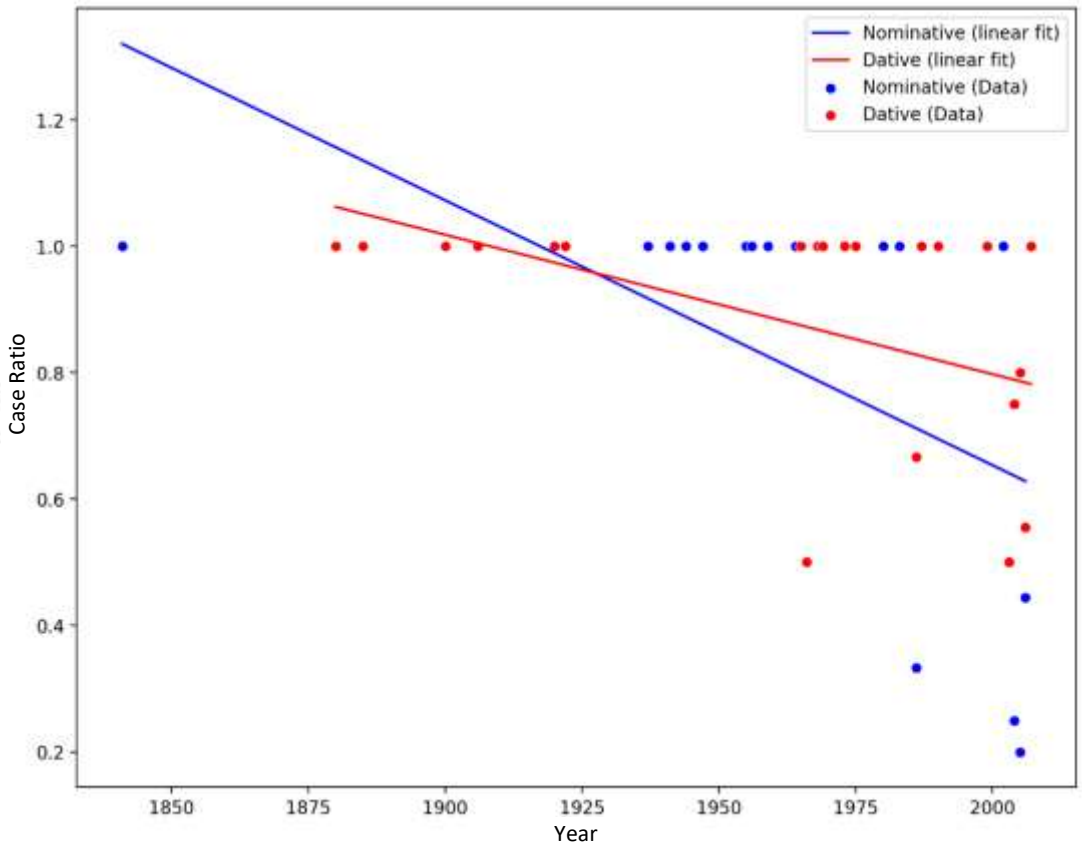

Figure 3: Occurrences of nominative- and dative-marked arguments per year: data and fitted lines.

Although dative marking is often context-dependent in Armenian, the choice of an animate-selecting verb does not seem to yield marking of inanimates. In the corpus all three instances of inanimate O arguments used metaphorically with verbs selecting animate O arguments are unmarked like in (41).

(41) Հենց Ա.Օսիպյանին է հաջողվել […] բանկն «ուշքի բերել»:

henc'	*A. Ōsipyan-i-n*	*ē*	*haǰoł-v-el*	***bank-n***	*owšk'-i*	*ber-el*
just	A. Osipyan-DAT-DEF	AUX.3SG	succeed-MP-PRF	**bank-DEF**	consciousness-DAT	bring-INF

'Of all people, it was A. Osipyan who succeeded in […] "bringing the bank to consciousness".' (EANC: Arawōt, 2003.05.10)

Figure 4 summarises the pattern of DOM in Eastern Armenian in the studied corpus. Collective nouns and animals are both subsumed under the label *animate* since their place on the animacy hierarchy relative to each other is not clear, as they show the same marking pattern. The shaded areas represent lack of data: there are only two pronouns referring to collectives and one referring to an animal, one specific indefinite collective noun and no specific indefinite animal.[29]

[29] Two native speakers consulted chose the unmarked form in all three clauses with specific indefinite animals ('dog', 'sheep' and 'cat') that were presented to them (Hasmik Sargsian, Sona Melik-Karamyan, personal communication).

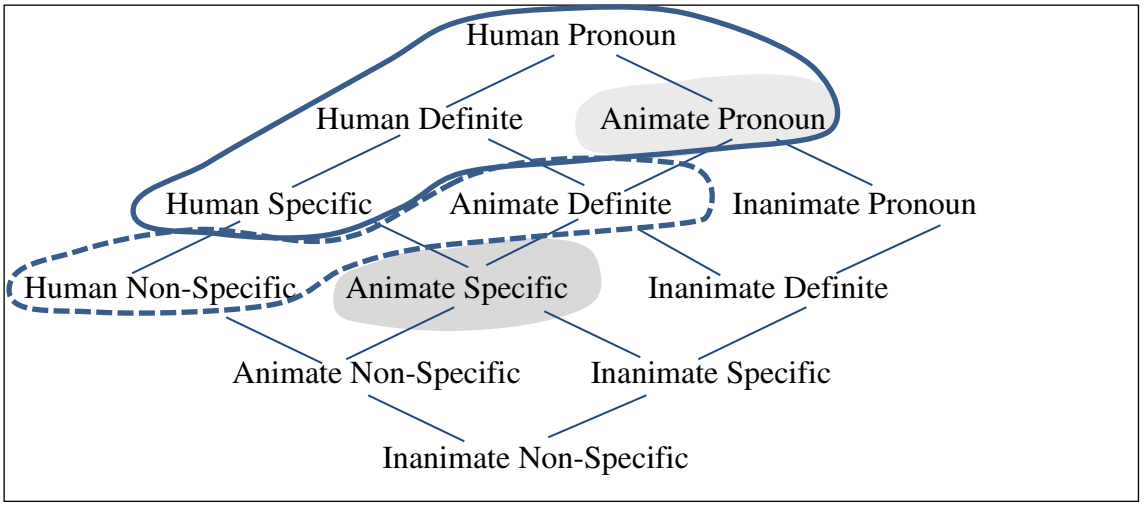

Figure 4: Obligatorily and optionally marked argument classes in Armenian DOM.

Non-specific humans are here considered optionally marked. If this is true, the only clear-cut division without a transitional zone is found in the dimension of animacy, between animate and inanimate pronouns and between specific humans and specific animates, while in the dimension of definiteness the obligatorily marked zone is always followed by a transitional zone of optional marking. This would conform to Witzlack-Makarevich & Seržant's (2018: 29) observation that clear-cut divisions (what they call "split" as opposed to "fluid" alternations) are typically found in the domain of inherent properties. According to Klein & de Swart (2011: 5), properties inherent to the NP always yield split alternations whereas fluid alternations are restricted to properties that are expressed by the presence or absence of case marking. The Armenian data shows that this claim is too strong. In fact, definite non-human animates are involved in a fluid alternation although animacy is inherent to the lexeme and definiteness is overtly marked on the NP. The possible fluid alternation in the domain of non-specific humans, on the other hand, conforms to the claim insofar as specificity is not always marked overtly and might in certain cases indeed be expressed solely by the presence or absence of dative marking.

3.2.4 Exceptions

All in all there are 22 cases which do not conform to the pattern established above and two uncertain cases.

12 of them are dative-marked inanimates.[30] (42) is reminiscent of a Spanish example cited in Seržant (2019: 157), where an inanimate O argument is marked in a clause with exactly the same verb, 'to substitute', although marking is usually restricted to animates in Spanish, too. This is explained by a need for disambiguation (ibid.), an explanation that applies to (42), too.

[30] All 12 instances of marked inanimates can be found in the appendix.

Not only is there no other possibility to determine which argument is O and which is A, since both being plural, verbal agreement is ambiguous, too, but word order is also OVS instead of more common SVO, so that the absence of marking would probably yield the reverse interpretation.

(42) Հունիսի կեսերին վերջիններիս փոխարինում են ալպյան անմոռուկը, […] երեքնուկների և կակաչների ծաղիկները:

hownis-i	*kes-er-i-n*	***verǰin-ner-i-s***	*p'oxarin-owm*	*e-n*	*alpyan*
june-GEN	half-PL-DAT-DEF	**latter-PL-DAT-PROX**	substitute-IPFV	AUX-3PL	alpine

anmoṙowk-ə	*erek'nowk-ner-i*	*ew*	*kakač'-ner-i*	*całik-ner-ə*
forget-me-not-DEF	clover-PL-GEN	and	poppy-PL-GEN	flower-PL-DEF

'In mid-June the alpine forget-me-not, the clover and the poppy flowers substitute the latter ones.' (EANC: *Haykakan sovetakan hanragitaran*)

Word order can, however, not be decisive since most other cases have SVO or SOV word order. Instead, almost all clauses with dative-marked inanimate O have in common that their A is inanimate, too. The increased need for case marking in a scenario where O is of equal or higher rank than A can be explained semantically in that this constellation goes against the expectation that A should rank higher than O. In clauses with two inanimate arguments there is, however, a morphosyntactic motivation as well: animates exhibit a morphological opposition between A and O so that a (definite or specific) animate argument can always be unambiguously assigned to a syntactic function, leaving the remaining syntactic function to the other argument. When both arguments are inanimate, however, morphologically either argument could have either function. This morphosyntactic explanation, unlike the semantic explanation, captures the two cases of dative-marked O arguments in clauses with animate A, too: in both clauses, one of them given in (43), A is zero and thus does not provide any clues on its syntactic function either.

(43) երեկվա «մարաթոնյան» նիստերը, ինչպես դատարանի դահլիճում անվանում էին դրանց

erek-va	*marat'on-yan*	*nist-er-ə*	*inč'pes*	*dataran-i*	*dahlič-owm*
yesterday-GEN	marathon-ADJVZ	session-PL-DEF	how	court-GEN	hall-LOC

anvan-owm	*ē-in*	***dranc'***
name-IPFV	AUX-PST.3PL	**DEM.MED.PL.DAT**

'yesterday's "marathon" sessions, as they were calling them in the courtroom'

(EANC: Banvor, 1959.07.17)

The use of the dative with inanimates thus apparently has a discriminatory function. This is not uncommon cross-linguistically, Seržant (2019: 154-163) lists quite a few other languages

where in the case of ambiguity, marking is optionally or obligatorily extended to arguments for which marking is otherwise disallowed. In Armenian this strategy seems to be optional and in fact rather marginal: in 96,2% of the clauses with two inanimate arguments both are in the nominative, even in cases where the semantics of the predicate would allow a reverse interpretation as well like in (44).

(44) Սկսվեց նոր տարածքների իրացումը, որն էլ խթանեց աշխարհագրական գիտությունների զարգացումը:

sks-vec'-Ø	*nor*	*tarack'-ner-i*	*irac'owm-ə*	*or-n*	*ēl*
begin-MP-AOR.3SG	new	territory-PL-GEN	appropriation-DEF	REL-DEF	PART

xt'anec'-Ø	*ašxarhagrakan*	*gitowt'yown-ner-i*	***zargac'owm-ə***
stimulate-AOR.3SG	geographical	science-PL-GEN	**development-DEF**

'The appropriation of new territories started, which, in turn, furthered the development of the geographical sciences.' (EANC: *Haykakan sovetakan hanragitaran*)

Considering only clauses where both arguments are not only inanimate but also either definite or a pronoun, the percentage of clauses with dative-marked O rises to 9%. This further corroborates the role of the discriminatory function, indicating that marking is relatively more common when A and O are of similar rank not only with regard to animacy but also to definiteness. Dative-marked inanimates are, however, not restricted to scenarios where O ranks at least equal to A on the definiteness hierarchy. There are in fact two cases with definite O and pronoun A.

Interestingly, dative marking of inanimates conforms to the definiteness hierarchy, being more common at the top and possibly disallowed at the bottom. All dative-marked inanimates in the corpus are either definite or pronouns and marking is more common with pronouns than with definites: while pronouns make up only 5,6% of inanimate O arguments in the corpus, they make up one third of the dative-marked inanimates. O arguments are more likely to be of equal or higher rank than A the higher they are on a hierarchy, but this cannot be the only reason since, as mentioned above, equal or higher rank of O on the definiteness hierarchy does not seem to be a necessary prerequisite for the dative marking of inanimates.

Sharing the same number, so that verbal agreement does not help to disambiguate the arguments, is not required either: among the clauses with marked inanimate O arguments, there is one case with plural O and singular A and one case with singular O and plural A.

For Spanish, García García (2007: 81) identifies certain verb classes to which the occurrence of marked inanimate O arguments is restricted, namely verbs implying "a reversible or symmetrical relation between the subject and the object referent". This cannot be observed in the Armenian data, where the predicates in question are rather diverse. They include the verbs

‘to substitute’ and ‘to intersect’ which conform to this description, as well as the “verbs of naming and singling out” ‘to call’ and ‘to characterise’ mentioned for Spanish, too (ibid.: 66), but also verbs like ‘to unite’, ‘to facilitate’ or ‘to close’, which do not describe a symmetrical relation between A and O.

Thus, while the motivation for marking inanimates in both languages can be subsumed under *increased need for disambiguation*, the exact conditions leading to this increased need differ: in Spanish it results from event semantics and in Armenian from morphosyntactic properties, namely the morphosyntactic ambiguity arising in a clause without an overt animate argument. In both languages, marking of inanimates does not depend on the complete absence of any disambiguating cues (in fact, Spanish has a rather rigid word order) but seems to be possible as soon as distinguishability falls below a certain level. Note, however, that the observations concerning Armenian are based on a small set of 12 clauses only. Further research is needed in order to verify the conclusions drawn here.

While there is one single explanation for all instances of marked inanimates, the second group of exceptions, unmarked human definites and pronouns, is rather heterogeneous. It consists of 5 definite NPs, 2 morphologically neutral but semantically definite NPs and one pronoun.

(45) [գալիք երջանկության կոռումը խափանող] ամենայն ոք և ամենայն ինչք հողմացրիվ անելու […] կոչը

amenayn_ok’	*ew*	*amenayn_inč’k’*	*hołmac’riv*	*anel-ow*	*koč’-ə*
everyone	and	everything	scattered	make-GEN	call-DEF

‘the […] call to eliminate everyone and everything [that impedes the upcoming forging of happiness].’ (EANC: Ռafayel Hambaryan, *Ałowhac’*)

In (45) the pronoun *ամենայն ոք amenayn ok’* ‘everyone’ is archaic and generally does not seem to be inflected in modern Armenian. Unlike the notably more common negative pronoun *ոչ ոք oč’ ok’* ‘no one’, which has the dative/genitive form *ոչ ոքի oč’ ok’i*, **ամենայն ոքի amenayn ok’i* does not appear in the EANC.

(46) Ստալինի անձը պաշտպանելու պատրվակով, նրա արձանի տակ ամբիոն էին դրել:

Stalin-i	***anj-ə***	*paštpanel-ow*	*patrvak-ov*	*nra*	*arjan-i*	*tak*
Stalin-GEN	**person-DEF**	protect-GEN	pretext-INS	DEM.DIST.GEN	statue-GEN	under

ambion	*ē-in*	*dr-el*
tribune	AUX-PST.3PL	put-PRF

‘With the pretext of protecting Stalin’s person, they had put a tribune next to his statue.’ (EANC: Ałasi Ayvazyan, *Ełac č’ełacə: mi kyank’ (ōrhnowt’yown ew aneck’)*)

(47) Ես կհաղթեմ ինձ, […] շանսատակ կանեմ իմ անձը:

es	*k-hałt'-em*	*inj*	*šansatak*	*k-an-em*	*im*	***anj-ə***
1SG	COND-win-1SG	1SG.DAT	killed_like_a_dog	COND-do-1SG	1SG.GEN	**person-DEF**

'I will defeat myself, […] I will kill myself [lit. my person] like a dog.'

(EANC: Perč Zeyt'ownc'yan, *Piesner,* mas 1)

A semantic motivation might be the reason for the lack of marking in (46) and (47), where *անձ anj* refers to a more abstract concept rather than an actual person.

(48) Հրավիրել էին […] իրանց բոլոր մերձավոր ազգականները:

hravir-el	*ē-in*	*iranc'*	*bolor*	*merjavor*	***azgakan-ner-ə***
invite-PRF	AUX-PST.3PL	3PL.REFL.GEN	all	close	**relative-PL-DEF**

'They had invited […] all their close relatives.' (EANC: Raffi, *Salbi*)

(49) Դպրոցը այս տարի տալիս է իր առաջին շրջանավարտները:

dproc'-ə	*ays*	*tari*	*t-al-is*	*ē*	*ir*	*arāǰin*
school-DEF	PROX	year	give-INF-SIM	AUX.3SG	3SG.REFL.GEN	first

šrǰanavart-ner-ə
graduate-PL-DEF

'The school is issuing its first graduates this year.'

(EANC: Erewani hamalsaran, 1972.05.20)

Lack of marking in (48) and (49), on the other hand, is probably due to specificity. Both the relatives in (48) and the graduates in (49) are non-specific since their identity does not matter, and the relatives in (48) are also not mentioned in subsequent discourse. Marking of definites thus to a certain extent seems to be sensitive to specificity, too, although most non-specific definites in the corpus are marked, as in (50):

(50) Ուղղիչ հիմնարկի վարչակազմը պարտավոր է […] անհապաղ տեղյակ պահել դատապարտյալի մերձավոր ազգականներին

owłłič'	*himnark-i*	*varč'akazm-ə*	*partavor*	*ē*	*anhapał*
disciplinary	institution-GEN	administration-DEF	obliged	AUX.3SG	immediately

tełyak	*pah-el*	*datapartyal-i*	*merjavor*	***azgakan-ner-i-n***
aware	keep-INF	convict-GEN	close	**relative-PL-DAT-DEF**

'The administration of the disciplinary institution is obliged […] to immediately inform the close relatives of the convict.' (EANC: HH k'reakan orensgirk' 2005)

Note that (49) has an inanimate A. While we have seen above that the presence of an inanimate A can lead to marking where it is not expected, it does not seem to prevent lack of marking where it would be expected.

(51) Առաջին անգամ փառատոնն ունեցավ իր նոր տնօրենը՝ Դիտեր Կոսլիկը

arājin	*angam*	*p'arāton-n*	*ownec'-av*	*ir*	*nor*	***tnōren-ə***
first	time	festival-DEF	have-AOR.3SG	3SG.REFL.GEN	new	**director-DEF**

Diter	*Koslik-ə*
Dieter	Kosslick-DEF

'For the first time the festival had its new director: Dieter Kosslick.'

(EANC: Aāwōt, 2002.03.02)

Specificity cannot be the reason for the lack of marking in (51). In this case the O is in fact specific, as the identity of the new director matters enough for his name to be mentioned. Instead, there are at least two other possible explanations. On the one hand, (51) might be an example of what Dum-Tragut (2009: 61) calls "institutionalisation" or "depersonification", i.e. the proposition being about the function the director fulfils rather than the director himself as a person. On the other hand, the predicate of the clause is the verb *ունենալ ownenal* 'to have', which has been described as rarely taking marked O arguments. In the corpus there is indeed no clause with *ունենալ ownenal* and a marked O, but in fact all other instances of human O arguments of the verb are non-specific indefinites, which are not expected to be marked anyway. As mentioned in Chapter 2.3.4, the properties of the argument a verb typically takes can influence marking, too. It is thus possible that the verb, mostly taking non-specific indefinite O arguments, has generalised the nominative found with these arguments for all its O arguments.

(52) Որոտի, կայծակի մեջ Աստված է ենթադրում:

orot-i	*kaycak-i*	*meǰ*	***Astvac***	*ē*	*ent'adr-owm*
thunder-GEN	lightning-GEN	in	**God**	AUX.3SG	assume-IPFV

'In the thunder, the lightning, he sees God.' (EANC: Lerī Kamsar, *Karmir ōrer*)

(53) Աստված սիրեք, էս մինն ինձ տվեք, տանեմ:

Astvac	*Ø-sir-ek'*	*ēs*	*min-n*	*inj*	*tv-ek'*	*Ø-tan-em*
God	OPT-love-2PL	PROX	one-DEF	1SG.DAT	give-IMP.2PL	OPT-take_away-1SG

'If you love God, give this one to me, I'll take it with me.'

(EANC: Sero Xanzadyan, *Matyan ełelowt'yanc'*)

In both (52) and (53), the noun in question is *Աստված Astvac* 'God', a noun that may or may not receive the definite article in the nominative singular (Avetisyan/Zak'aryan 2012: 162) but is semantically definite in both cases. There is a third occurrence of this noun, where it is dative-marked:

(54) Յորամը լքել էր իր հայրերի Տէր Աստծուն

Yoram-ə	*lk'-el*	*ē-r*	*ir*	*hayr-er-i*	*Tēr*	***Astc-ow-n***
Yoram-DEF	leave-PRF	AUX-3SG.PST	3SG.REFL.GEN	father-PL-GEN	lord	**God-DAT-DEF**

'Yoram had abandoned the God of his fathers.' (EANC: *Hin ktakaran*)

The phrase *Աստված սիրեք Astvac sirek'* in (53) is an idiomatic expression (Bediryan 2011: 242) and might thus contain a fossilised unmarked form, but (52) indicates that the unmarked form is in fact productive. It is possible that God is construed as a concept rather than a person and therefore not treated as human. Alternatively, the difference in marking between (52) and (53) on the one hand and (54) on the other hand is again due to specificity, since the dative-marked NP in (54), unlike the unmarked NPs, is modified and consequently more noteworthy (cf. Ionin 2006: 185, 196).

The last group of exceptions contains mismatches between specificity and marking. One human argument is unmarked although bearing the specific indefinite article *մի mi* and one human argument is marked although being non-specific. Two cases which are neither clearly specific nor non-specific will be discussed in this context, too.

In (55), although the NP is marked with *մի mi*, it seems to be non-specific as the continuation shows: the speaker was not looking for a certain person from Mijnashen but would have been content with anyone from there. (55) is thus not an exception to the rule that specific humans should always be marked, although it is interesting to note that marking, at least in this case, follows semantics and not morphology.

(55) Այսքան ժամանակ մի միջնաշենցի էի փնտրում: Գիտեի, որ կլինեն:

aysk'an	*žamanak*	***mi***	***mijnašenc'i***	*ē-i*	*p'ntr-owm*
so_much.PROX	time	**INDF**	**from_Mijnashen**	AUX-PST.1SG	search-IPFV

gite-i	*or*	*k-lin-en*
know-PST.1SG	SUB	COND-be-3PL

'I was looking for someone from Mijnashen for such a long time. I knew that there would be some [people from there].' (EANC: Zorayr Xalap'yan, *Mijnašen*)

The reverse, a dative-marked NP without *մի mi*, is found in (56). The NP is referential but since nothing suggests its individual identity being relevant, there is no reason to assume that it is specific although not being marked as such. It seems thus to be indeed a case of a dative-marked non-specific human O. Since it is the only clear case, it is impossible to find a pattern and an explanation for this. A need for disambiguation, the motivation behind marking of inanimates, at least does not apply to (56) since the overt argument of a converb can only be an object.

(56) Չեն պաշտպանել իրենց փոխտնօրենի թեկնածությունը՝ կասկածելիորեն նախընտրելով օտար փոխտնօրենի:

č'-e-n	*paštpan-el*	*irenc'*	*p'oxtnōren-i*	*t'eknacowt'yown-ə*
NEG-AUX-3PL	support-PRF	3PL.REFL.GEN	deputy_director-GEN	candidature-DEF

kaskacelioren	*naxəntr-el-ov*	*ōtar*	***p'oxtnōren-i***
suspiciously	prefer-INF-INS	foreign	**deputy_director-DAT**

'They didn't support the candidature of their deputy director, suspiciously preferring a foreign deputy director.' (EANC: Aṙawōt, 2005.02.02)

The two arguments whose specificity value is not clear, given in (57) and (58), are plural, consequently there is no grammaticalised morphological marking of specificity. Both are referential, but neither appears in subsequent discourse and the immediate context does not give any cues on the relevance of referent identification. It is, however, possible that the speaker chose to treat the NPs as specific because of the referents being a topic of discourse in the wider context.

(57) Նոր էի հյուրասիրել երեք թագավորի:

nor	*ē-i*	*hyowrasir-el*	***erek'***	***t'agavor-i***
just	AUX-PST.1SG	serve-PRF	**three**	**king-DAT**

'I had just feasted three kings.' (EANC: Vilyam Šek'spir, *Antonios ew Kleopatra*)

(58) Ազատ արձակեցին ընդդիմության մի քանի ակտիվիստների:

azat	*arjakec'-in*	*ənddimowt'yan*	***mi_k'ani***	***aktivist-ner-i***
free	release-AOR.3PL	opposition.GEN	**some**	**activist-PL-DAT**

'They released some oppositional activists.' (EANC: Aṙawōt, 2004.06.19)

Since the data is so scarce, it is not possible to decide whether dative marking indicates specificity, (56) being an exception, or whether marking is a facultative option for non-specific human O arguments, too. It would be worth to examine the relationship and interaction between dative marking and the specific indefinite article, too, whose uses seem to not completely overlap. Dum-Tragut (2009: 62f) gives the following minimal pair, stating that (59b) "seems to be used only in cases where the person […] is additionally specified by a following sentence or dependent clause".

(59)

a) Տեսա մի մարդ:

tes-a	***mi***	***mard***
see-AOR.1SG	**INDF**	**human**

'I saw a person.' (Absolutely neutral statement)

b) Տեսա մի մարդու:

tes-a	***mi***	***mard-ow***
see-AOR.1SG	**INDF**	**human-DAT**

'I saw a (certain) person ...' (Dum-Tragut 2009: 62f, glosses adapted)

Together with (55) mentioned above, this suggests that the presence of the indefinite article does not necessarily entail dative marking and that only NPs which are also dative-marked seem to be understood as explicitly specific. Dative marking is, however, not more restricted than the indefinite article but appears on NPs without the article, too, as (56) shows. Apparently, they either depend on different facets of specificity or there are other factors at play as well.

3.3 Historical, areal and typological perspectives

3.3.1 DOM in Old and Middle Armenian

DAM patterns seem to be diachronically unstable, they often deviate in related languages and vary in the course of the history of one language (Sinnemäki 2014: 300). This can be observed in Armenian, too.

DOM is attested in Armenian starting from the first texts, but the system in Old Armenian (5th-11th centuries) was completely different from the one found in modern Eastern Armenian. In general, the accusative of nouns and most pronouns was marked with the ending *-s* in the plural and zero-marked (i.e. the same as the nominative) in the singular (Meillet 1913: 44, 60-65). The 1SG personal pronoun had a dedicated accusative form in *-s*, too, while for 2SG, 2PL and 1PL the accusative was syncretic with the dative (ibid.: 66). Some O arguments, however, additionally received the proclitic preposition *z=*, which is assumed to have meant originally 'concerning' and 'around' (Wilhelm 2008: 290) and preserved these meanings in combination with the ablative and instrumental cases (Meillet 1913: 82, 84). The preposition was used with demonstrative, relative and personal pronouns, proper names and nouns bearing the definite article (ibid.: 79), nouns which where inherently definite could receive the preposition without bearing the definite article (Klein 2017: 1099). This use of the preposition is attested already in the oldest texts (Meillet 1936: 94).

(60) Արի առ զմանուկդ եւ զմայր իւր:

ari	*ar̄-Ø*	***z=manowk=d***	*ew*	***z=mayr***	***iwr***
arise.IMP.2SG	take-IMP.2SG	**ACC=child=MED**	and	**ACC=mother**	**3SG.GEN**

'Arise, take thy child and his mother.' (Klein 2017: 1099)

The marker was still used in Middle Armenian (12th-16th centuries), as can be seen in (61). There seems to have been some variation, however, as in (62), where the same clause by the same author appears with *z=* in (62a) and without in (62b).

(61) Բայց ըզխաւա՛րն կու սիրեն:
bayc' *əz=xawa'r=n* *kow* *sir-en*
but ACC=dark=DEF PROG love-3PL
'But they love the dark.' (Tirayr Ark'episkopos 1952: 274)

(62)
a) Զհայրն ու մայրըն կու տանի:
z=hayr=n *ow* *mayr=ən* *kow* *tan-i*
ACC=father=DEF and mother=DEF PROG take_away-3SG

b) Հայրն ու մայրն կու տանի:
hayr-=n *ow* *mayr=n* *kow* *tan-i*
father=DEF and mother=DEF PROG take_away-3SG
'[Death] takes father and mother away.' (Tirayr Ark'episkopos 1952: 294, 295)

Middle Armenian mostly consists of the Cilician literary language, which was a western variety of Armenian (Weitenberg 2017: 1133). In modern Western Armenian, the marker *z=* has been lost on nouns, but is still preserved on personal, relative and reciprocal pronouns (Wilhelm 2008: 296-297). Thus the loss occurred according to the definiteness hierarchy, as *z=* is only preserved at the top of the hierarchy – be it simply due to the conservativeness of pronouns or to effects of prominence or markedness.

In Eastern Armenian, the proclitic *z=* was lost completely, but a new system of DOM emerged, which is conditioned by both animacy and definiteness and instead of a dedicated accusative marker makes use of the dative. This seems to be mostly a language internal development rather than a contact phenomenon, as the comparison with the DOM systems of contact languages in the following chapter will show. The extension of the dative to O arguments was possibly facilitated by the fact that the accusative of most personal pronouns is syncretic with the dative. The history of Eastern Armenian is, however, less well documented than the history of Western Armenian and the emergence of the new DOM pattern remains yet to be studied.

3.3.2 DOM systems in contact languages of Armenian

DAM generally seems to be prone to areal diffusion (Bickel et al. 2015: 40). DOM is quite widespread in West Asia, although more commonly triggered by definiteness than by animacy: definiteness-based DOM is found in Turkish (Key 2012: 239f), Azerbaijani (Murad

Suleymanov, personal communication) and Uzbek (Key 2012: 245), quite a few Iranian languages (Bossong 1985: 128f), the Northeast Caucasian language Udi (Schulze 2015: 388f), Hebrew and Aramaic and Arabic varieties (Bossong 1991: 149). DOM based on both animacy and definiteness, like in Armenian, is found in the Iranian languages Ossetic (Abaev 1964: 124f) and Vafsi (Key 2012: 244f). Russian, the *lingua franca* of the Caucasus, exhibits DOM conditioned by animacy only (Tauscher/Kirschbaum 1983: 69f).

In the following, the DOM patterns of the main contact languages of Armenian, namely Persian, Turkish[31] and Russian, will be presented in more detail.

In both Turkish and Persian, definite O arguments are obligatorily case-marked and indefinites may be case-marked (Key 2012: 240). It has been suggested that marking is restricted to specific indefinites but there is some disagreement, possibly due to different definitions of specificity (ibid.). In the examples in (63) and (64), the difference between the (optionally) marked indefinite O arguments in b) and the unmarked indefinite O arguments in c) seems to be indeed specificity in the sense of the referent's identity being relevant. Dalrymple & Nikolaeva (2011: 112) mention that in Persian a marked indefinite O must appear in subsequent discourse, which is a feature of specificity, too.

(63) Persian (Iranian; Karimi 2005: 27f, glosses adapted)

a) *Kimea un* ***ketāb=ro*** *xund-Ø*
Kimea that **book=ACC** read.PST-3SG
'Kimea read that book.'

b) *Kimea ye* ***dāstān-i=ro*** *goft-Ø ke az to šenid-e bud-Ø*
Kimea INDF **story-REL=ACC** say.PST-3SG SUB from 2SG hear-PP be.PST-3SG
'Kimea told a story that she had heard from you.'

c) *Kimea emruz ye* ***ketāb*** *xund-Ø*
Kimea today INDF **book** read.PST-3SG
'Kimea read a book today.'

(64) Turkish (Turkic; Göksel/Kerslake 2005: 326f)

a) *garson temiz* ***tabak-lar-ı*** *masa-ya koy-du-Ø*
waiter clean **plate-PL-ACC** table-DAT put-PST-3SG
'The waiter put the clean plates down on the table.'

[31] Actually, Azerbaijani is a closer contact language than Turkish, but research on this language is very rare. Its DOM pattern seems to be very similar to the Turkish and Persian pattern, with obligatory marking of definite and specific O arguments (Murad Suleymanov, personal communication).

b) *bazen* *masa-ya* *Ayşe-nin* *biz-e* *Meksika-dan* *getir-diğ-i*
sometimes table-DAT Ayşe-GEN 1PL-DAT Mexico-ABL bring-SUB-POSS.3SG
bir ***örtü(-yü)*** *yay-ar-dı-k*
one **cloth-ACC** spread-AOR-PST-1PL
'Sometimes we would spread on the table a cloth that Ayşe had brought us from Mexico.'

c) *bazen* *masa-ya* *bir* ***örtü*** *yay-ar-dı-k*
sometimes table-DAT one **cloth** spread-AOR-PST-1PL
'Sometimes we would spread a cloth on the table.'

Old Persian (6th-4th centuries BCE) had an accusative case which was used non-differentially for all masculine and feminine nouns, while for neuter nouns the accusative was identical to the nominative (Brandenstein/Mayrhofer 1964: 55-64). In both Middle Persian (3rd century BCE - 9th century CE) and Parthian (2nd century BCE - 7th century CE), an important contact language of Old Armenian (Meyer 2017: 341-344), the Old Iranian case system was almost entirely lost (Durkin-Meisterernst 2014: 197). In both languages the preposition *ō,* which primarily had a dative function marking, among others, goals, recipients and maleficients, was also used with some direct objects (ibid.: 330-339). The rules governing its distribution are not entirely clear, it seems to have depended mostly on word order (ibid.). The Middle Persian postposition *rāy,* on the other hand, which is the predecessor of the modern Persian accusative marker *-rā* and derives from a postposition meaning 'for the sake of, on account of, by, due to, because of', was used as a dative, too, with similar functions as *ō* (Durkin-Meisterernst 2014: 354; Dalrymple/Nikolaeva 2011: 202). It was, however, only occasionally used for definite O arguments (Bossong 1985: 58). DOM fully developed in Early New Persian (ibid.; Dalrymple/Nikolaeva 2011: 202). In the beginning it was conditioned by both animacy and definiteness: while definite and sometimes also indefinite animates were usually marked, inanimates were rarely marked even if they were definite (Key 2012: 247). In modern Persian the marker *-rā* has lost the function of the dative (Bossong 1985: 58). It is used to mark several kinds of topical arguments and adjuncts (Dalrymple/Nikolaeva 2011: 107-109), but for O arguments topicality is not a necessary condition since definite O arguments are always marked, independently of their information structural status (ibid.: 110).

The development of DOM in Turkish is less well documented. In Old Anatolian Turkish (11th-15th centuries) the pattern was already very similar to today (Key 2012: 247) and it is quite probable that it was already well established before the first attestations, since Old Turkic, the oldest attested Turkic language (starting from the 7th century), had a pattern

similar to modern Turkish, where the accusative was restricted to definite and specific O arguments; it was, however, always optional (Erdal 2004: 366).

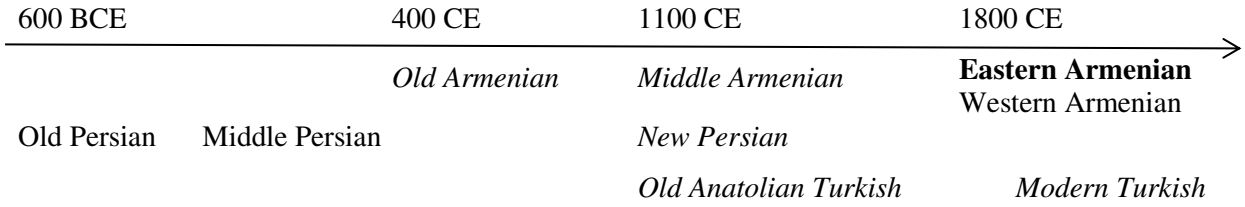

Figure 5: Development of DOM in Armenian, Turkish and Persian. Language stages with definiteness-based DOM are in italics, the one with a different pattern is bold.

Figure 5 summarises the development of DOM in Armenian, Persian and Turkish. Curiously, Armenian lost its definiteness-based DOM just after one contact language, Persian, had developed a similar pattern and after it had come into contact with Turkish, yet another language with definiteness-based DOM. Moreover, DOM based primarily on animacy is rather unique in the area.[32] Morphologically, however, the Armenian system is far from being uncommon, since the use of a marker with dative functions in DOM is paralleled in Udi and several Iranian languages (Schulze 2015: 388; Bossong 1985: 112). In fact, as mentioned above, the Persian marker *-rā* went through a stage where it served as a dative, too. This is not necessarily a contact phenomenon since it is rather common typologically, as we will see in the next chapter.

In Russian, a more recent contact language of Eastern Armenian, DOM is based almost solely on animacy[33] and restricted to the classes of plural nouns and masculine nouns of the first declension (Tauscher/Kirschbaum 1983: 70).[34] O arguments belonging to these classes are marked with the genitive if they are animate and with the nominative if they are inanimate (ibid.). The category of animates includes humans and animals, collective nouns are treated as inanimates (ibid.: 69, 72). Animacy seems to be more bound to the lexeme and less context-dependent, as animate nouns used in an inanimate sense are still treated as animates (ibid.: 72), like in (65).

[32] In Ossetic, animacy is secondary, since indefinites are generally unmarked and only in the case of definites it depends on animacy whether marking is obligatory or optional (Abaev 1964: 124-125). Bossong (1985: 15-16) suggests that the role of animacy might be due to Slavic influence. The pattern in Vafsi, where only specific animates are marked (Key 2012: 244-245), sounds rather symmetric since both inanimate and non-specific O arguments are always unmarked, while marking of animate arguments depends on specificity and marking of specific arguments depends on animacy.

[33] Personal pronouns, i.e. the upper end of the definiteness hierarchy, are always genitive-marked, irrespective of animacy (Tauscher/Kirschbaum 1983: 219).

[34] Feminine singular nouns of the second declension have a dedicated accusative case, which is used non-differentially (Tauscher/Kirschbaum 1983: 71).

(65) Russian (Slavic; Tauscher/Kirschbaum 1983: 72)
Он читает «Евгения Онегина».
on *čita-et* *Evgenij-a* *Onegin-a*
3SG.M read-3SG Eugene-GEN Onegin-GEN
'He reads (the novel) "Eugene Onegin".'

The contact with Russian is too recent for fundamental morphosyntactic influence on Armenian, it is, however, quite probable that it plays a role in the extension of dative marking from humans to animals.

3.3.3 Dative-based DOM and ditransitive alignment

A pattern where some O arguments are unmarked and others are marked the same as R is not uncommon in the languages of the world. It is found, for example, in many Dravidian, Indo-Iranian, Semitic, Romance and Tupi-Guaraní languages (Primus 2012: 69), as well as the Pama-Nyungan language Nhanda, the Border language Imonda, the Sepik language Awtuw, the Dogon languages (Iemmolo 2011: 86, 110f, 112f, 160), the Otomanguean language Chatino (Dalrymple/Nikolaeva 2017: 178) and the Nadahup language Hup (Epps 2008: 165-166). According to Bossong (1991: 157), "broad typological comparison reveals that the DAT marker is by far the most important single source of newly developed ACC markers".

Marking in these languages can be formalised as O_{high}=R, O_{low}=T (or T_{low}, see below), i.e. high-ranking O arguments receive the same marking as R and low-ranking O arguments receive the same marking as T. Since R is most often prominent and T is most often non-prominent (Haspelmath 2007: 83), this roughly yields the alignment presented in Figure 6. This picture is reminiscent of semantic (or *active-stative*) alignment, where the agent-like argument receives the same treatment in both transitive and intransitive clauses, as does the patient-like argument. Here, the prominent argument receives the same treatment in both monotransitive and ditransitive clauses, as does the non-prominent argument. The extension of the dative from R to high-ranking O arguments is thus quite logical due to the semantico-pragmatic similarities between the two kinds of objects (cf. Bossong 1985: 109; Lazard 2001: 875; Aissen 2003: 446f).

	non-prominent	**prominent**
monotransitive	O_{low}	O_{high}
ditransitive	T	R

Figure 6: Ditransitive alignment with dative-based DOM.

Figure 6 is, however, an idealised representation of ditransitive arguments. In fact, although this is less common, T may also be prominent or R non-prominent. When T has properties triggering DOM, two different strategies can be observed: in some languages T is always unmarked, irrespective of its properties, in others it follows the same pattern as O (Kittilä 2006: 14f).[35] Kittilä (ibid.) refers to the first type as *shifted DOM* and to the second as *extended DOM.*

Armenian is of the second type: in (66) T is definite and human, and dative-marked just as an O with the same properties would be. Other languages in the area with dative-based DOM, namely Udi and the Iranian languages Southern Tati, Gilaki and Mazanderani, show the same pattern (Harris 1984: 245; Bossong 1985: 25, 40f).

(66) Բարաթյանները երբեք չեն համաձայնվել երեխաներին իրան տալ:

Barat'yan-ner-ə	*erbek'*	*č'-e-n*	*hamajayn-v-el*	***erexa-ner-i-n***
Baratyan-PL-DEF	never	NEG-AUX-3PL	agree-MP-PRF	**child-PL-DAT-DEF**

iran	*t-al*
3SG.REFL.DAT	give-INF

'The Baratyans have never agreed to giving the children to him/her.'

(EANC: Alek'sandr Širvanzade, *Arsen Dimak'yan*)

Interestingly, this marking strategy creates ambiguity between T and R, which both receive the same marker.[36] So why do languages have this pattern nonetheless? One possible motivation is that discrimination between T and A is given priority over discrimination between T and R, since an unmarked T would be identical to A. Another possibility is that in languages showing this pattern the identifying function, marking prominent T arguments as objects, is given priority over the discriminatory function (Malchukov 2008: 218). In a similar vein, it might be due to a preference to treat T and O identically. In fact, this characteristic of indirective alignment is reflected in the behavioural properties of Armenian objects, too.

Although coding properties group R and high-ranking O (and T) arguments together in Armenian, behavioural properties are the same for all O and T arguments and differ from R, as the behavioural property most characteristic for Armenian direct objects, passivation, shows in (67): the active clause (67a) contains a marked T, 'children', or an unmarked T, 'books', which can both be passivised the same way in (67b). This is not possible for R: while (67c) only allows the interpretation of the subject as a demoted T and not as a demoted R, (67d), where this interpretation is not possible, is simply ungrammatical.

[35] In the latter case, some languages mark R differently in order to avoid ambiguity (Malchukov 2008: 218).

[36] In Armenian this ambiguity is resolved by word order: the first dative argument is understood as T, the second one as R (Hasmik Sargsian, personal communication).

(67)

a) Բարաթյանները երեխաներին/ գրքերն իրան տվեցին:
Barat'yan-ner-ə ***erexa-ner-i-n/*** ***grk'-er-n*** *iran* *tvec'-in*
Baratyan-PL-DEF **child-PL-DAT-DEF** **book-PL-DEF** 3SG.REFL.DAT give-AOR.3PL
'The Baratyans gave the children/ the books to her.'

b) Երեխաներն/ գրքերն իրան տրվեցին:
erexa-ner-n/ ***grk'-er-n*** *iran* *trvec'-in*
child-PL-DEF **book-PL-DEF** 3SG.REFL.DAT give.MP-AOR.3PL
'The children/ the books were given to her.'

c) Ինքը երեխաներին տրվեց:
ink'ə *erexa-ner-i-n* *trvec'-Ø*
3SG.REFL child-PL-DAT-DEF give.MP-AOR.3SG
'She was given to the children.'
*'She was given the children.'

d) *Ինքը գրքերը տրվեց:
ink'ə *grk'-er-ə* *trvec'-Ø*
3SG.REFL book-PL-DEF give.MP-AOR.3SG
'She was given the books.'

Figure 7 summarises the mismatch between behavioural and coding properties of Armenian objects. Note that O and T are never distinguished in any way.

coding properties	O_{low}/T_{low}	O_{high}/T_{high}	R
behavioural properties	O_{low}/T_{low}	O_{high}/T_{high}	R

Figure 7: Distribution of coding and behavioural properties of Armenian objects.

While Kittilä's (2006: 14f) distinction between shifted and extended DOM is based solely on coding properties, Dalrymple & Nikolaeva (2011: 177-186) take behavioural properties into account, too. They observe a correlation between the status of marked and unmarked O arguments as the same or distinct syntactic (sub-)functions and the marking of T: in Hindi and Chatino (Otomanguean), where marked and unmarked O arguments differ not only in coding but also in behavioural properties and are thus considered distinct syntactic functions, T arguments are never marked. They hold the same syntactic function as unmarked O arguments, the function of the secondary object, while R and marked O arguments are primary objects. The pattern of marking T differentially just as O, on the other hand, is found in Dolakha Newari (Sino-Tibetan) and Tigre (Semitic), where marked and unmarked O arguments do not differ in behavioural properties, like in Armenian.

The pattern of Hindi and Chatino thus indeed corresponds to the alignment presented in Figure 6, as it distinguishes the syntactic functions of *primary object,* encompassing O_{high} and R, and *secondary object,* encompassing O_{low} and T. The second pattern, on the other hand, distinguishes the syntactic functions of *direct object* (O and T) and *indirect object* (R), the former showing a split in coding properties. Thus while the first type is probably best considered a type of ditransitive alignment on its own, comparable to semantic alignment in monotransitive argument marking, languages of the second type have indirective alignment, although superficially distinguishing two classes of direct objects, one of them marked like R. Obligatorily unmarked T arguments do, however, not necessarily entail a primary/secondary object distinction, indirective languages may also suspend DOM in ditransitive clauses in order to avoid ambiguity between T and R. This seems to be the case in Spanish, where T arguments are always unmarked, but marked O arguments consistently pattern with T to the exclusion of R with regard to clitic object pronouns and passivisation (García-Miguel 2015: 207, 214).

4 Conclusion

Differential case marking and agreement, word order, noun incorporation, diathesis alternations, inverse alignment and alignment splits share some patterns and motivations, being, to different extents, triggered by animacy, definiteness, topicality, TAM or polarity. There is, however, no single explanatory approach capturing all these phenomena. Depending on the construction and the argument concerned, the most appropriate explanation may be in terms of markedness, prominence, transitivity or simply disambiguation.

The tendencies observed for differential A and O marking have implications beyond DAM. They contribute, for example, also to explaining the general distribution of marking strategies of core arguments, i.e. alignment patterns. The bias towards accusative alignment is especially strong in the domain of verbal agreement (WALS 2013: feature 100A; Onishi 2001: 6) and this corresponds to the preference of indexing the most prominent argument, which in most cases is A in addition to S. Regarding case marking, the fact that A arguments have stricter semantic and pragmatic requirements and in consequence are a more homogeneous class than O arguments possibly causes a greater need for O arguments to be overtly marked as such than for A arguments. In fact, case marking is employed primarily with less predictable argument roles and adjuncts (Siewierska 1997: 198).

The hierarchies of animacy and definiteness are often claimed to be connected to the relative frequency of the respective argument classes in A or O position. This claim is not entirely

accurate: according to the Armenian corpus data studied, the hierarchies do not correspond to the relative frequency of a certain class of arguments in a certain syntactic context but rather to the likelihood of an argument class to be in A rather than O position. This criterion did, however, not corroborate the higher ranking of speech act participants on the animacy hierarchy once the data was adjusted for definiteness. The distinction between speech act participants and third persons found in some languages thus rather seems to form a separate person hierarchy, which can be explained as a conventionalisation resulting from the fact that first and second persons are, unlike third persons, always animate and very high in definiteness. Another possibility is that the distinction between speech act participants and other animates is not due to the likelihood to be in A rather than O position but a difference in prominence resulting from empathy is more decisive. This needs further investigation with data from different languages and from different perspectives, like diachronic developments and cognitive processes.

The Armenian DOM pattern can mostly be explained in terms of animacy, definiteness and specificity. Specificity is decisive only for indefinites, but it can influence the marking of definites, too. Animacy, on the other hand, is not strictly bound to the semantics of the lexeme but may also be affected by contextual semantics. Interestingly, the Armenian DOM pattern does not entirely coincide with the likelihood of certain argument classes to be in A rather than O position: collective arguments are distributed across A and O like animates (most of which are human in the studied corpus), but unlike humans they are only optionally case-marked.

In marginal cases, dative marking is motivated by morphosyntax rather than argument properties, preventing ambiguity in clauses where there is no (overt) argument with distinct A and O forms. Topicality does not seem to play a role synchronically, although a closer examination of the argument classes with optional marking, namely non-specific humans and definite collective nouns and animals, might reveal factors that could not be detected in this thesis due to lack of data.

The emergence and development of DOM in Eastern Armenian also needs further research. It seems to have evolved independently of the interference of other languages, since a pattern similar to Armenian is not found in any of its contact languages. Dative marking continues to expand, as the slight increase of marking in the optionally marked class of non-human animates over the past one and a half centuries indicates.

Armenian exhibits differential subject marking restricted to non-finite subordinate clauses, too, whose subjects can be either unmarked or receive genitive marking. According to Dum-

Tragut (2009: 508) the former is used with inanimates and the latter with animates. It would be interesting to see to what extent the conditions of DOM and DSM coincide. Turkish exhibits DSM in non-finite subordinate clauses, too, with similar conditions applying to both DOM and DSM (Johanson 2006: 228).

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Appendix: Marked inanimates

(i) Բլուրներն էլ, որ […] կանգնած-բոլորած են ամֆիթատրոնի թիկունքին, իրենց […] գրկի մեջ են առել նրան:

blowr-ner-n	*ēl*	*or*	*kangn-ac-bolor-ac*	*e-n*	*amfit'atron-i*
hill-PL-DEF	PART	REL	stand-RES-circle-RES	AUX-3PL	amphitheatre-GEN

t'ikownk'-i-n	*irenc'*	*grk-i*	*meǰ*	*e-n*	*ar̄-el*	***nran***
back-DAT-DEF	3PL.REFL.GEN	arms-GEN	in	AUX-3PL	take-PRF	**DEM.DIST.DAT**

'And the hills that […] stand in a circle in the back of the amphitheatre have taken it [= the amphitheatre] in their arms.'

(EANC: Silva Kapowtikyan, *Gowyner nowyn xčankaric'*)

(ii) զանազան տարբերակներ […], որոնց միավորում է […] էկոնոմիկայի պլանային զարգացման ապահովման հնարավորության գաղափարը

zanazan	*tarberak-ner*	***oronc'***	*miavor-owm*	*ē*	*ēkonomika-yi*
various	variant-PL	**REL.PL.DAT**	unite-IPFV	AUX.3SG	economy-GEN

planayin	*zargac'm-an*	*apahovm-an*	*hnaravorowt'yan*	*gałap'ar-ə*
as_planned	development-GEN	ensuring-GEN	possibility.GEN	idea-DEF

'various variants […], which are united by the idea of the possibility of ensuring the planned economic development […]' (lit.: 'which the idea of the possibility of ensuring the planned economic development unites')

(EANC: *Haykakan sovetakan hanragitaran*)

(iii) երեկվա «մարաթոնյան» նիստերը, ինչպես դատարանի դահլիճում անվանում էին դրանց:

erek-va	*marat'on-yan*	*nist-er-ə*	*inč'pes*	*dataran-i*	*dahlič-owm*
yesterday-GEN	marathon-ADJVZ	session-PL-DEF	how	court-GEN	hall-LOC

anvan-owm	*ē-in*	***dranc'***
name-IPFV	AUX-PST.3PL	**DEM.MED.PL.DAT**

'yesterday's "marathon" sessions, as they were calling them in the courtroom'

(EANC: Banvor, 1959.07.17)

(iv) Նազար և նրան ուղղահայաց հատող Հաքիմ Նեզամի պողոտաներից

Nazar	*ew*	***nran***	*owłłahayac'*	*hat-oł*	*Hak'im Nezami*	*połota-ner-ic'*
Nazar	and	**DEM.DIST.DAT**	vertical	cut-SP	Hakim Nezami	avenue-PL-ABL

'from Nazar avenue and Hakim Nezami avenue, which intersects it vertically'

(EANC: *Haykakan sovetakan hanragitaran*)

(v) […] որ շատ հարմար բնորոշում է նաև վեպին:

or	*šat*	*harmar*	*bnoroš-owm*	*ē*	*naew*	***vep-i-n***
REL	very	convenient	characterise-IPFV	AUX.3SG	also	**novel-DAT-DEF**

'[…] which characterises also the novel very aptly.'

(EANC: Ašot Ełiazaryan, *Hayoc' noragowyn grakanowt'yown*)

(vi) Հունիսի կեսերին վերջիններիս փոխարինում են ալպյան անմոռուկը, […] երեքնուկների և կակաչների ծաղիկները:

hownis-i *kes-er-i-n* ***verǰin-ner-i-s*** *p'oxarin-owm* *e-n* *alpyan*
june-GEN half-PL-DAT-DEF **latter-PL-DAT-PROX** substitute-IPFV AUX-3PL alpine

anmoṙowk-ə *erek'nowk-ner-i* *ew* *kakač'-ner-i* *całik-ner-ə*
forget-me-not-DEF clover-PL-GEN and poppy-PL-GEN flower-PL-DEF

'In mid-June the alpine forget-me-not, the clover and the poppy flowers substitute the latter.' (EANC: *Haykakan sovetakan hanragitaran*)

(vii) Ձագարաձև խողովակը հագցվում է նշիկի վրա այնպես, որ նա հերմետիկորեն փակի նշիկին:

jagarajew *xołovak-ə* *hagc'-v-owm* *ē* *nšik-i* *vra* *aynpes*
funnel-shaped tube-DEF wear-MP-IPFV AUX.3SG tonsil-GEN on so.DIST

or *na* *hermetikoren* *Ø-p'ak-i* ***nšik-i-n***
SUB DEM.DIST hermetically OPT-close-3SG **tonsil-DAT-DEF**

'The funnel-shaped tube is pulled over the tonsil in such a way that it seals the tonsil hermetically.' (EANC: Ilya Azizyan, *Otolaringologiakan axtorošič' ew bowžakan gorcołowt'yownner ow nranc' katarman texnikan*)

(viii) Չեղածի վրա կատարված հաշվարկը քամահրում է այն իրողությանը, որ […]

č'-eł-ac-i *vra* *katar-v-ac* *hašvark-ə* *k'amahr-owm* *ē*
NEG-be-RES-GEN on conduct-MP-RES calculation-DEF disregard-IPFV AUX.3SG

ayn ***irołowt'yan-ə*** *or*
DIST **fact.DAT-DEF** SUB

'The calculation made on the basis of non-existing circumstances disregards the fact, that […]' (EANC: Haykakan Žamanak, 2005.05.14)

(ix) Վաղ միջնադարում բժշկական մշակույթի զարգացմանը խթանեց քրիստոնեության մուտքը Հայաստան:

vał *mijnadar-owm* *bžškakan* *mšakowyt'-i* ***zargac'm-an-ə***
early Middle_Ages-LOC medical culture-GEN **development-DAT-DEF**

xt'anec'-Ø *k'ristoneowt'yan* *mowtk'-ə* *Hayastan*
stimulate-AOR.3SG Christianity.GEN entry-DEF Armenia

'In the early Middle Ages, the entry of Christianity into Armenia furthered the development of the medical culture.' (EANC: *Haykakan sovetakan hanragitaran*)

(x) Գուցե այն վերարկուն, որը չի տաքացրել գնորդի մարմինը, նաև առողջությանն է վնասել:

gowc'e *ayn* *verarkow-n* *or-ə* *č'-i* *tak'ac'r-el* *gnord-i*
maybe DIST coat-DEF REL-DEF NEG-AUX.3SG warm-PRF buyer-GEN

marmin-ə *naew* ***aṙołǰowt'yan-n*** *ē* *vnas-el*
body-DEF also **health.DAT-POSS3** AUX.3SG damage-PRF

'Maybe the coat that didn't warm its buyer's body has also damaged his/her health.'
(EANC: OPD X-52006)

(xi) Տաք ջուրը […] հեշտացնում է պլաս[տ]իֆիկատորի ներթափանցմանը նրա մեջ:

tak' *ǰowr-ə* *heštac'n-owm* *ē* *plastifikator-i* ***nert'ap'anc'm-an-ə***
hot water-DEF facilitate-IPFV AUX.3SG plasticiser-GEN **permeation-DAT-DEF**

nra *meǰ*
DEM.DIST.GEN in

'The hot water […] facilitates the permeation of the plasticiser into it.' (EANC: M. Bogslovski ew aylok', *Ōrganakan nyowt'eri əndhanowr k'imiakan texnologia*)

(xii) Գյուղական կիսակառույցների ցանկում ընդգրկված 88-ից 47-ին մի ժամվա ընթացքում հանեց:

gyowłakan *kisakarowyc'-ner-i* *c'ank-owm* *əndgrk-v-ac* *88-ic'* ***47-i-n***
rural half_built-GEN list-LOC include-MP-RES 88-ABL **47-DAT-DEF**

mi *žam-va* *ənt'ac'k'-owm* *hanec'-Ø*
one hour-GEN course-LOC take_out-AOR.3SG

'In the course of one hour he took out 47 of 88 [buildings] that where included in the list of unfinished rural buildings.' (EANC: Arawōt, 2005.07.23)