

# Variation in differential object marking

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## 1 Aim

Our aim is first to systematize synchronic, diachronic and cross-linguistic variation in differential object marking and secondly to raise and discuss some questions arising from this variation.

## 2 Variation across languages

### 2.1 Properties related to DOM

1. Languages differ in which properties influence DOM (cf. Comrie (1979); Bossong (1985); Aissen (2003); Malchukov (2008)):

- Semantic/Pragmatic properties of the argument:
  - Animacy
  - Referential-type (definiteness/specificity)
  - Topicality/Givenness
  - minor features: number, gender, concreteness
- Formal properties of the argument:
  - DP-type
- Semantic features of the predicate:
  - Transitivity parameters such as aspect, tense, mood
- Formal features of the clause:
  - Word order

2. Languages differ in how many properties influence DOM:

- one-dimensional DOM
- n-dimensional DOM ( $n > 1$ )

3. Languages differ in the extent to which properties influence DOM:

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- DP-type:
  - Catalan: only pronouns
  - Hebrew: all definites
- Animacy:
  - Imonda: only humans
  - Malayalam: all animates

## 2.2 Dependent versus head marking

### 2.2.1 Differential object marking on dependents

**Spanish** DOM by means of adposition:

- (1) a. Vi \*(a) la mujer.  
saw.1SG ACC the woman  
I saw the woman.
- b. Vi (\*a) la mesa.  
saw.1SG ACC the table  
I saw the table.

**Mongolian** DOM by means of case suffix:

- (2) Bi nom(\*-ig) unsh-san.  
I book-ACC read-PST  
I read a book (I did bookreading).
- (3) Bi Gunne\*(-g) har-san.  
I Gunne-ACC see-PST  
I saw Gunne.

### 2.2.2 Differential object marking on heads?

**Siswati** In Siswati, there are two ways of indicating the objecthood of an argument: (i) by realising it within the verb phrase (4a), or (ii) by prefixing the verb with an object marker agreeing in class with the argument (4b). These two ways of indicating objecthood of an argument are in complementary distribution, as shown by (4c) and (4d) (Thwala, 1995).

- (4) a. Silima [<sub>VP</sub> si-nik-e bafana **kudla**].  
7.fool 7SM-give-PST 2.boy 15.food  
The fool gave the boys food.
- b. (**Kudla**) silima [<sub>VP</sub> si-ku-nik-e bafana].  
15.food 7.fool 7SM-15OM-give-PST 2.boy  
(Food), the fool gave it to the boys.
- c. \* Silima [<sub>VP</sub> si-ku-nik-e bafana **kudla**].  
7.fool 7SM-15OM-give-PST 2.boy 15.food  
Int.: The fool gave the boys food.
- d. \* Silima [<sub>VP</sub> si-ku-nik-e bafana **kudla**].  
7.fool **Kudla** silima [<sub>VP</sub> si-∅-nik-e bafana]  
Int.: The fool gave the boys food.

**Makua** In Makua (Bantu, Mozambique), the object marker is obligatory not only with topicalised and omitted object NPs, but also if the referent of the object NP is human (Morimoto, 2002).

- (5) a. Aráárima á-hó-**ń**-líh-a mwaáná.  
           Araarima SM-PST-**OM**-feed-FV child  
           ‘Araarima fed a child’.

b. \* Aráárima á-hó-**Ø**-líh-a mwaáná.  
           Araarima SM-PST-**Ø**-feed-FV child  
           Int.: ‘Araarima fed a child’.

**Kichaga** In Kichaga (Bantu, Tanzania) an object marker is obligatory not only when the object NP is topicalised or omitted, but also when the object referent is expressed by an independent pronoun (Bresnan and Moshi, 1990, 151).

- (6) N-ä-ï-Ø-lyì-í-à                                    m-kà k-élyà.  
       FOC-1SM-PRES-Ø-eat-APL-FV 1-wife 7-food  
       'He/She is eating food for/on **his wife**.'

(7) N-ä-ï-\*(**m-**)lyì-í-à                                    k-élyá ò.  
       FOC-1SM-PRES-**1OM**-eat-APL-FV 7-food **1 PRO**  
       'He/She is eating food for/on **him/her**.'

**Ruwund** In Ruwund (Bantu, Zaire and Angola) an animate specific object must be object marked (Woolford, 1999).

- (8)    ku-∅-kimb        muntu  
         INF-∅-look.for person  
         to look for a [any] person

(9)    ku-mu-kimb        muntu  
         INF-1OM-look.for person  
         to look for a/the person (speaker has a **particular** person in mind)

		Siswati	Makua	Kichaga	Ruwund
Type 1	+top. or omit.	+	+	+	+
Type 2	–top. and +hum.	–	+	–	–
	–top. and +pro.	–	–	+	–
	–top. and (+anim. and spec.)	–	–	–	+

**Question 1** Should type 1 also be subsumed under differential object marking?

- Pro: topicality is a conditioning property of DOM in other languages
  - Con: DOM assumes the overt expression of the P argument.

### 2.2.3 Differential object marking on both heads and dependents?

**Romanian** A century ago in written Romanian human direct objects expressed by personal pronouns were obligatorily doubled by a clitic pronoun, whereas for postverbal human direct objects expressed by names doubling was not obligatory (in fact most examples were not doubled). The examples are from Ion Luca Caragiale's comedy of manners "O noapte furtunoasă", which was staged in 1879.

- (10) a. Cheamă pe Chiriac degrabă... mergi!  
call.IMP ACC Chiriac quickly... go.IMP  
Call Chiriac quickly... go!
- b. Am lăsat pe Zița acasă.  
have.1 left ACC Zita at home  
I have left Zita at home.

At that point the change from optional to obligatory doubling of certain preverbal direct objects was almost complete, as shown by Asan (1958).

In modern colloquial Romanian the doubling of human direct objects expressed by names has become obligatory:

- (11) a. Cheamă\*(-l) pe Chiriac degrabă... mergi!  
call.IMP-ACC.CL.3SG.M ACC Chiriac quickly... go.IMP  
Call Chiriac quickly... go!
- b. Am lăsat\*(-o) pe Zița acasă.  
have.1 left-ACC.CL.3SG.F ACC Zita at home  
I have left Zita at home.

A necessary condition for the doubling of postverbal direct objects in modern Romanian is that the direct object is ACC marked (for preverbal DOs this is not necessary):

- (12) a. Am reparat bicicleta vecinului.  
have.1 repair bike.DEF neighbour.DEF:GEN:MASC  
I've repaired the neighbour's bike.
- b. \* Am reparat pe bicicleta vecinului.  
have.1 repair ACC bike.DEF neighbour.DEF:GEN:MASC  
Int.: I've repaired the neighbour's bike.
- c. \* Am reparat-o (pe) bicicleta vecinului.  
have.1 repair-3.SG.FEM ACC bike.DEF neighbour.DEF:GEN:MASC  
Int.: I've repaired the neighbour's bike.

In modern European Spanish the clitic pronoun is obligatory with personal pronouns and optional with names referring to humans (Leonetti, 2008):

- (13) a. \*(Lo) vimos a él.  
CL.3SG see.PST.1PL ACC he.  
We saw him.
- b. (Lo) vimos a Guille.  
CL.3SG see.PST.1PL ACC he.  
We saw him.

Similarities between Clitic Doubling in Romance, type 2 Object Marking in Bantu and DOM:

- animacy and referentiality are conditioning factors for CD, type 2 OM and DOM
- CD, type 2 OM and DOM develop in a similar way (first pronouns, then names).

**Question 2** Why does clitic doubling emerge in Romance? Why does the second type of object marking emerge in Bantu?

## 2.3 Symmetric versus asymmetric marking

de Hoop and Malchukov (2007) distinguish between symmetric and asymmetric marking.

### 2.3.1 Symmetric marking

**Estonian** Alternation between two overt cases. See examples (18) and (19) below.

### 2.3.2 Asymmetric marking

**Spanish** Alternation between zero and one overt case, see examples (13) above.

Are there symmetric head-marking DOM languages?

## 2.4 Domain of DOM

1. Only P [Local DOM]: only properties of the object determine the use of case

IMONDA (Papuan; Seiler (1985, 165))

- (14) aial edel-m ue-ne-uõl fe-f  
father human-OBJ CL-eat-PL do-PRS  
'Her father habitually eats humans.'
- (15) ne ka-ne malhu õm uõn-ue-ne-na-ba  
2SG 1SG-POS pig yesterday COM-CL-eat-PST-TOP  
'because you ate my pig with them yesterday'

2. Both A and P [Hierarchical DOM]: ranking of objects with respect to subjects on a hierarchy determines use of case (irrespective of predicate)

AWTUW (Papuan; Feldman (1986, 110))

- (16) Tey tale yaw d-ael-i.  
3.F.SG woman pig FAC-bite-PST  
'The woman bit the pig.' **not:** 'The pig bit the woman.'
- (17) Tey tale-re yaw d-ael-i.  
3.F.SG woman-OBJ pig FAC-bite-PST  
'The pig bit the woman.'

3. P and verb: a combination of object and verbal properties determines use of case

ESTONIAN (Ackerman and Moore (2001, 109))

- (18) Madis joob teed  
Madis drink.3SG.PRES tea.PART  
'Madis is drinking tea'
- (19) Madis joob oma tee ära  
Madis drink.3SG.PRES own tea.GEN/ACC preverb  
'Madis will drink up his tea'

4. A, P and verb [Ambiguity driven DOM]: case is used only in ambiguous contexts (verb semantics, contextual information, world knowledge)

YONGREN LOLO (Tibeto-Burman; Gerner (2008, 299))

- (20)  $\eta$ o<sup>33</sup> ce<sup>33</sup>mo<sup>33</sup> t<sup>h</sup>ie<sup>21</sup> tso<sup>33</sup> zi<sup>33</sup>  
1SG snake OBJ follow go  
'I follow the snake.'
- (21) ni<sup>33</sup> mi<sup>33</sup> mo<sup>21</sup>  $\eta$ <sup>21</sup>me<sup>33</sup>  $\varepsilon$ <sup>21</sup>?  
2PL earth plough want Q  
'Do you want to plough the earth?'

- Regularly, local DOM systems also show a disambiguation use of case

IMONDA (Papuan; Seiler (1985, 165))

- (22) tinbi ha-m ue-ne-fan  
python snake-OBJ CL-eat-PF  
'The python has swallowed the snake.'

cf. also Malayalam, Spanish, Hup, ...

## 2.5 What is the relation between these parameters?

**Question 3** How are different properties related to case: trigger vs. result

- Some properties trigger use of overt case others are the result of it.
- Triggers: properties that are either semantically or morphosyntactically intrinsic (inherent) to an argument and are inert to change:
  - Animacy: by adding or removing case from an argument we do not change its animacy
  - DP-type: by adding or removing case from an argument we do not change its DP-type
- Results: properties that are extrinsic (non-inherent) to an argument and are subject to change:
  - Specificity: by adding or removing case from an argument we can change its specificity

KANNADA (Dravidian; Lidz (2006, 11))

- (23) Naanu pustaka huDuk-utt-idd-eene.  
       I.NOM book    look.for-NPST-be-1SG  
       ‘I am looking for a book.’
- (24) Naanu pustaka-vannu huDuk-utt-idd-eene.  
       I.NOM book-ACC    look.for-NPST-be-1SG  
       ‘I am looking for a book.’
- (25)                   ACC                   ∅  
       + specific   ± specific

- Definiteness: by adding or removing case from an argument we can change its definiteness given that it is not intrinsically determined as for pronouns, proper names, and NPs morphologically marked for definiteness (article, demonstrative) → only for bare nouns.

TURKISH (Turkic; von Heusinger and Kornfilt (2005, 8))

- (26) (Ben) kitab-ı     oku-du-m.  
       I       book-ACC read-PST-1SG  
       ‘I read the book.’

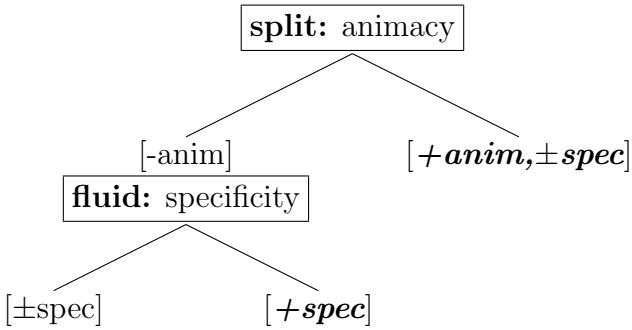
#### Question 4 Are certain properties dominating?

- Intrinsic properties (‘triggers’) take priority over extrinsic ones (‘results’) (de Hoop and de Swart (to appear); de Swart (2007); Kornfilt (to appear)).
- This correlates with the distinction between *split* and *fluid* case alternations (de Hoop & Malchukov 2007):
  - split alternation: use of case distinguishes between categories (complementary distribution): [+anim] → ACC, [-anim] → ∅
    - \* absence of case results in ungrammaticality
  - fluid alternation: use of case applies within a category: [-anim] & ACC → [+spec], [-anim] & ∅ → [±spec]
    - \* presence/absence of case results in change in interpretation
- As a result of this correlation, split alternations take priority over fluid ones (de Swart (2007)).

KANNADA (Dravidian; Lidz (2006, 11))

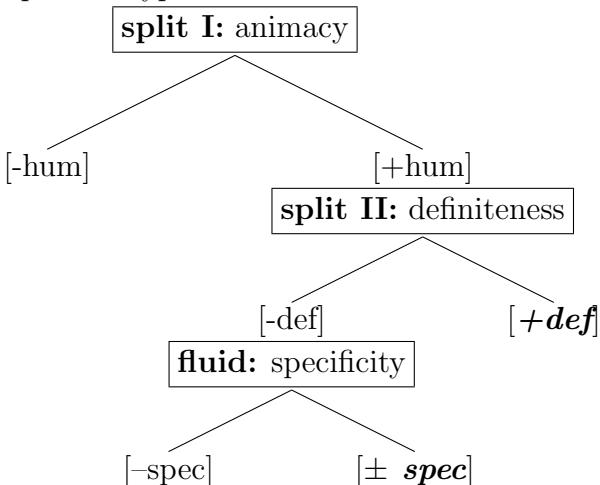
- (27) \* Naanu sekretari huDuk-utt-idd-eene.  
       I.NOM secretary look.for-NPST-be-1SG  
       ‘I am looking for a secretary.’
- (28) Naanu sekretari-yannu huDuk-utt-idd-eene.  
       I.NOM secretary-ACC    look.for-NPST-be-1SG  
       ‘I am looking for a secretary.’

Accusative case in Kannada:

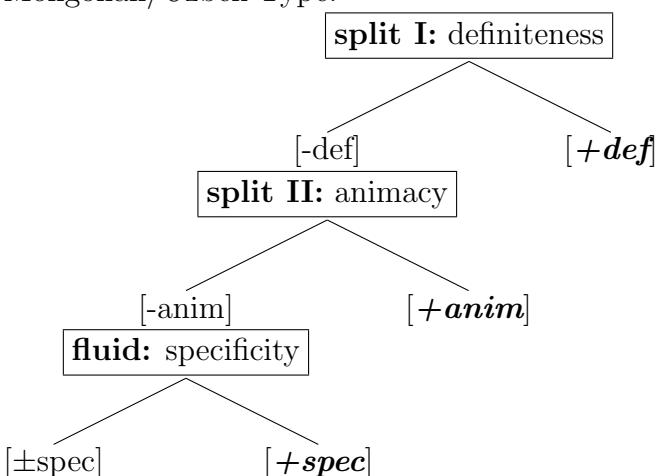


- When more than one intrinsic property is involved, priority relations may change depending on the language:

– Spanish Type:



– Mongolian/Uzbek Type:



- Fluid alternations may also be counteracted (neutralized) by grammatical requirements

- In Turkish, accusative stops being a reliable indicator of specificity in certain contexts (von Heusinger and Kornfilt (2005); Kornfilt (to appear)):
  - \* When the object is moved away from the verb
  - \* Partitive direct objects for which the lexical head has been replaced by the agreement marker *sin* require accusative case
- By comparison, it is hard to think of a situation in which movement away from the verb turns the interpretation of an object from [+anim] into [ $\pm$ anim].

**Question 5** What are the restrictions on combinations of properties in DOM?

- Transitivity Hypothesis: ‘High and Low-Transitivity features co-vary systematically; wherever an obligatory pairing of two transitivity features occurs in the morphosyntax or semantics, the paired features are always on the same side of the High-Low Transitivity Scale.’ (Hopper and Thompson, 1980)
- Malchukov 2006: systematic co-variation only between semantically related parameters (incorporating critique by Tsunoda and Lazard on Hopper and Thompson (1980))
  - yes: definiteness and aspect (Finnish, Estonian) (mediated through affectedness, cf. Tenny (1994))
  - not (likely): animacy and aspect
- the combination of animacy and referentiality occurs frequently

**Question 6** Are there correlations between properties and the domain of application?

- Given the Relevance Principle (Mark the Transitivity Parameter on the relevant constituent i.e. on the constituent to which the property pertains) of Malchukov (2006):
  - Local DOM should mainly correlate with argument (P) features
  - Type 3 DOM [P and verb] should mainly correlate with argument and verb features (cf. Estonian above)
- Given that global DOM systems are motivated by recoverability we expect them to predominantly be correlated with animacy, as only animacy gives information about semantic roles (cf. Primus (2007) de Swart (2007)).
- Symmetric marking is not motivated by disambiguation (Malchukov, 2008).

**Question 7** Are there correlations between conditioning properties and the symmetry parameter?

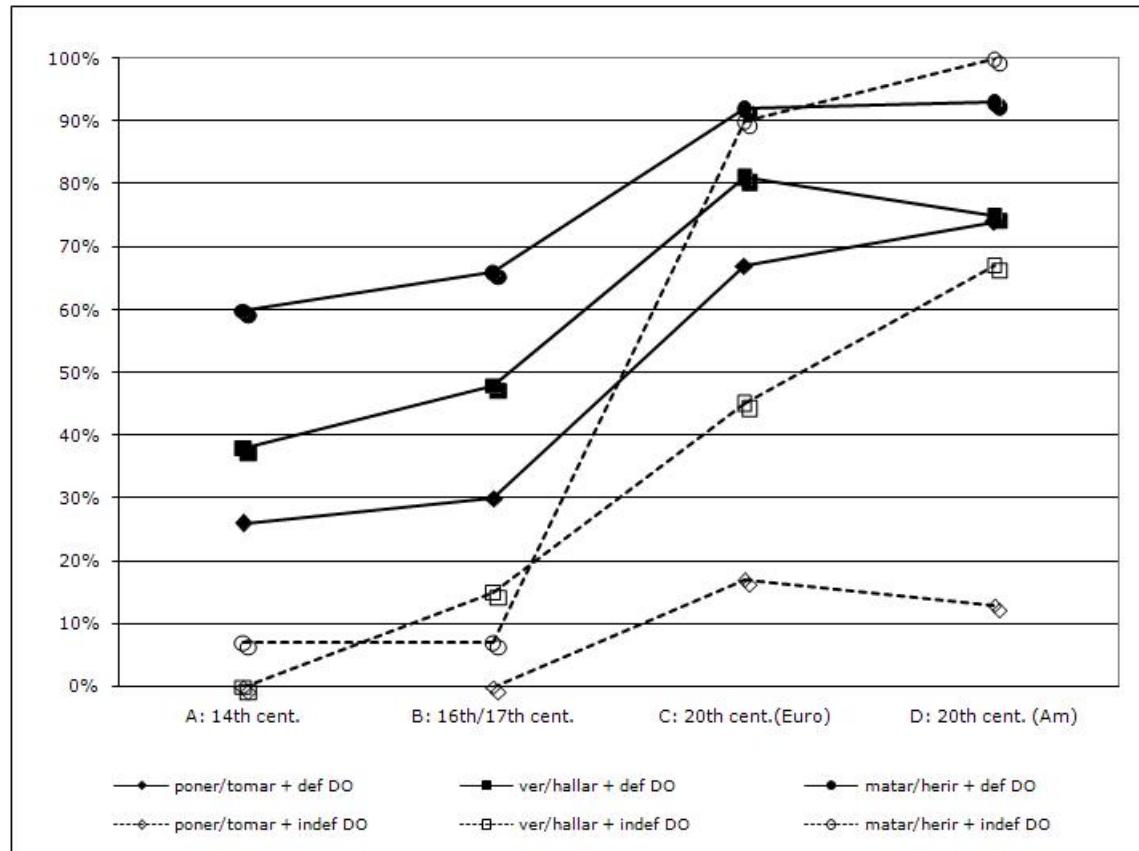
- ‘Remarkably, it seems that whereas the asymmetric DOM systems are typically dependent on features of the direct object (parameter of O-individuation in terms of Hopper and Thompson (1980)), the symmetric DOM systems often pertain to a broader range of parameters (factivity, aspect, affectedness, individuation)’ (Malchukov and de Swart, to appear)

### 3 Variation within languages

#### 3.1 Diachronic variation

##### 3.1.1 Spanish: spread of DOM and verb type

von Heusinger (2008) shows that the development of DOM with definite and indefinite human direct objects is conditioned in part by the verb type: (Bible translations of 1+2 Samuel and 1+2 Kings).



- DOM develops first on arguments higher on the definiteness scale, and later on arguments which are lower.
- The development of DOM also depends on the verb class.
- Bible corpus: About 60% of definite human objects of *matar* are marked in the 16th century. Verbs of the second class reached a similar rate at least a century later. Verbs of the third class reached a similar rate at least two centuries later.

##### 3.1.2 Romanian: spread of DOM and the DP type

The figure below displays a text count of DOM in two religious text from the 16th century from von Heusinger and Onea (2008):

	me/you	other personal pronouns	prop. names	def. NP	indef. NP	total
+ pe	5	33	3	9	1	51
- pe	5	1	0	36	9	51
total	10	34	3	45	10	102
% + pe	50%	97%	100%	20%	10%	50%

- 97% of pronouns with the **same** form in subject or object position occur with **pe**, whereas only half the pronouns with **different** forms in subject and object position occur with **pe**.

	Singular		Plural	
1. person	<b>eu</b>	pe <b>mine</b>	noi	pe noi
2. person	<b>tu</b>	pe <b>tine</b>	voi	pe voi
3. person	el/ea	pe el/ea	ei/ele	pe ei/ele

- DOM has spread to definite direct objects referring to humans before it has become obligatory on first and second person personal pronouns.

## 3.2 Synchronic variation

### 3.2.1 Correlation between ACC and semantic properties – Uzbek

Presence of ACC correlates with certain semantic properties, depending on the construction.

In Uzbek the ACC marker is obligatory with pronouns (29a), names (29b), demonstrative/definite NPs (29c) and indefinite animate direct objects (29d).

- (29) a. U me\*(-ni) tani-ma-di.  
           3SG 1SG-ACC recognise-NEG-PRF  
           S/he didn't recognise me.
- b. Biz Toschkent\*(-ni) aylan-ma-dik.  
       1PL Taschkent-ACC turn-NEG-1PL  
       We did not walk through Tashkent.
- c. Biz bu hikoya\*(-ni) uqi-gan-miz.  
       1PL DEM stories-ACC read-PST-1PL  
       We read these stories.
- d. Sen bitta muschuk\*(-ni) urvor-ding-mi?  
       2SG a cat-ACC run.over-PRF.2SG-Q  
       Have you run over a cat?

With indefinite inanimate direct objects the distribution of the ACC depends on a number of factors:

1. Partitivity: if an object is to be interpreted partitively, then the ACC marker is obligatory:

- (30) Rasta-da      besch-ta kitob bor. Bitta kitob\*(-ni) kecha  
       bookshelf-LOC five-CL book exist a      book-ACC yesterday  
       uq-di-m.  
       read-PRF-1SG  
       There are five books on the shelf. One of the books I read yesterday.

The reverse does not hold, i.e. not every ACC marked indefinite inanimate object must be interpreted partitively.

- (31) Men kecha      bitta rus-cha      kitob-ni      u'q'i-di-m.  
       1SG yesterday a      Russian-in book-ACC read-PRF-1SG  
       Yesterday I read a Russian novel [not necessarily partitive].

2. Modification by means of relative clauses: if a direct object is modified by a (restricted) relative clause then the ACC marker appears to be obligatory.

- (32) Men hozir Ispaniya-da sot-ib      ol-gan      **bitta** kitob-im-ni  
       I      now Spain-LOC sell-GER get-PST a      book-1SG-ACC  
       u'q'i-yap-man.  
       read-PRES-1SG  
       I'm reading a book I bought in Spain.

- (33) Men Farhod tavsiya      q'il-gan      **bitta** DVD-ni      sot-ib  
       I      Farhod recommandation make-PST a      DVD-ACC sell-GER  
       ol-di-m.  
       get-PRF-1SG  
       I bought a DVD-ACC which Farhod recommended.

3. Perfectivity: the direct object of an explicitly perfective construction (V + *finish*) must be marked with ACC.

- (34) a. U      kecha      bitta kitob uqi-di.  
       3SG yesterday a      book read-PRF:3SG  
       He has read a book yesterday.
- b. U      kecha      bitta kitob\*(-ni) uqi-ib      tugat-di  
       3SG yesterday a      book-ACC read-GER finish-3SG  
       He finished reading a book yesterday.
- c. U      ertaga-cha      bitta kitob\*(-ni) uqi-ib      tugat-gan  
       3SG tomorrow-until a      book-ACC read-GER finish-GER  
       bul-a-di.  
       be-FUT-3SG  
       He will have finished reading a book by tomorrow.

4. Progressive: in a progressive construction the presence or absence of the accusative suffix **ni** on indefinite inanimate direct objects correlates with the following meaning difference:

- (35) a. Men hozir bitta ruscha asar-ni uqi-yap-man.  
          I now a     russian novel-ACC read-PROG-1SG  
          At this moment I am reading a russian novel.  
       b. Men hozir bitta ruscha asar uqi-yap-man.  
          I now a     russian novel read-PROG-1SG  
          I am reading a russian novel (either at this particular moment or not).

5. Verb type: With a first class of verbs (repair, erase, break, etc.) the ACC marking is obligatory, even if the object is **not** partitive or modified by a relative clause.

- (36) a. Men bitta stol\*(-ni) tuzat-di-m.  
          1SG a     table-ACC repair-PRF-1SG  
          I have repaired a table. (not necessarily partitive)  
       b. U bitta suz\*(-ni) uchir-di.  
          3SG a     word-ACC delete-PRF  
          S/he deleted a word. (not necessarily partitive)

The ACC is obligatory even if the speaker does not have a specific entity in mind.

- (37) Farhod **bitta** moshina\*(-ni) tuzat-ib-di.  
          Farhod a     car-ACC     repair-EVID-PRF  
          (I have heard that) Farhod has repaired a car.

With another class of verbs (e.g. **sotib olmoq'** to buy, **emoq'** to eat, **pischirmoq'** to cook, **yozmoq'** to write) ACC-marking of indefinite inanimate direct objects is grammatical only if the object is modified by a relative clause (38) or is interpreted partitively (39). Otherwise it is not grammatical (40).

- (38) Men Farhod tavsiya q'il-gan **bitta** DVD-ni sot-ib  
          I Farhod recommendation make-PST a     DVD-ACC sell-GER  
          ol-di-m.  
          get-PRF-1SG  
          I bought a DVD-ACC which Farhod recommended.  
       (39) Men bitta kitob-ni sot-ib ol-dim.  
          1SG a     book-ACC sell-GER get-PRF-1SG  
          I bought one of the books.  
       (40) Men bitta kitob-ni sot-ib ol-dim.  
          1SG a     book-ACC sell-GER get-PRF-1SG  
          \*I bought a book [not partitive].

Summary:

DOM	Pro	Name	Def./Dem.	Indef	Incorp.
hum				+	
anim					-
inanim				±	

### 3.2.2 Free variation of DOM?

Are there instances where the presence versus absence of ACC does not correlate with a meaning difference?

A first example of variation which may not correlate with a meaning difference is the alternation of **mine** (1SG.ACC) and **pe mine** (ACC 1SG.ACC) in the two religious texts of the 16th century (von Heusinger and Onea, 2008).

- (41) In zioa de astăzi **pre tine** au număratu ntru feții săi.  
in day of today ACC you.ACC have counted into sons his  
In this day he has counted you to his sons.
- (42) Iată au curățitu **tine** deîn toate păcatele tale.  
See have cleaned you.ACC from every sins your.  
See, he has cleaned you from all of your sins.

In modern Romanian the ACC marking of definite human direct objects is not obligatory. It is not entirely clear whether this alternation correlates with a semantic property.

- (43) Am chemat copiii vecinilor.  
have.1 called children neighbor.PL.GEN.  
I've called the children of the neighbors.
- (44) I-am chemat pe copiii vecinilor.  
CL.ACC.3PL-have.1 called ACC children neighbor.PL.GEN.  
I've called the children of the neighbors.

## 4 Analysis and explanation of DOM variation

### 4.1 Modelling variation in DOM

Some semantic properties trigger the use of case (e.g. animacy), others appear to be the result of it (specificity in Romanian indefinite human direct objects?).

From a production perspective, the speaker may or may not use overt case if the argument is specific. This can be modelled in OT by constraint reranking of \*Indef/spec/∅ and \*STRUC<sub>C</sub>.

From a comprehension perspective, the hearer infers that the argument is specific, if the NP expressing it is indefinite and marked with ACC. How can this be modelled?

Within a language, the ACC may make different semantic contributions in different contexts (Uzbek). Moreover, the same property may interact with ACC in different ways: compare specificity in Romanian and Spanish.

DOM may be conditioned by a complex interaction of features. Moreover, this complex interaction is language-specific to a significant extent. It appears that the complexity

requires rules/constraints to make simultaneous reference to multiple properties.

Scales are not necessary to describe synchronic stages of local DOM languages. Instead, such systems can be understood in terms of feature oppositions, e.g. [+pro] → ACC, [-pro] → Ø; [+hum] → ACC, [-hum] → Ø.

We do need scales to describe synchronic stages of hierarchical DOM languages. In these languages scales are part of the grammar and rules make explicit reference to them.

If it is necessary for the constraints/rules to refer to complex clusters of properties, what is the status of scales/hierarchies in synchronic grammar?

## 4.2 The status of scales/hierarchies

The notion of scale or hierarchy is used in two different ways:

- as a descriptive shortcut for a list of implicational universals
- as a explanatory notion postulated in order to account for implicational universals and certain patterns of language change

Why are the scales the way they are?

- ordering is due to frequency distribution?
- ordering reflects inclusion relations between components of the meaning of NPs?
- innate constraint-subhierarchies?

Kiparsky (2008): “make a principled separation between true universals, which constrain both synchronic grammars and language change, and typological generalizations, which are simply the results of typical paths of change.”

## 4.3 Historical development of DOM

Why does DOM spread along the hierarchies in the way it does? (Why is there no language in which pronouns and indefinites are marked, but names and definites are not marked? )

Does the spread from higher to lower NPs presuppose that DOM is obligatory for higher NPs? Romainan diachronic data appear to suggest otherwise.

Is the spread necessarily mediated by a ‘transition property’ (von Heusinger and Kaiser, 2005)?

Is there a historical relation between pragmatic (i.e. ambiguity driven) DOM and structural DOM?

- Global disambiguation systems may develop into local DOM (cf. Jäger (2004), see also discussion below).
- Not every local DOM system may result from such a development, in particular not non-animacy related systems.

- How to interpret the presence of disambiguation DOM in local DOM systems: historical residue or new development?
- For hierarchical DOM we don't know of any historical evidence. Verbal inverse systems seem to originate in sentences with two third person arguments (where there is potential for ambiguity (cf. Aissen 1997; see Zúñiga 2006:248-249 for discussion of the evolution of inverse systems).

Are some DOM systems more stable than others? Are some DOM systems more widely attested than others?

- We have no quantitative data on this.
- Jäger (2004); following Zeevat and Jäger (2002) predicts DOM based on disambiguation to develop into structural (local) DOM (given a set of predefined constraints and a given property distribution). From this we may conclude that disambiguation DOM is not stable and should be less common.
- Jäger (2007), using Stochastic Evolutionary Game Theory, predicts local DOM to be evolutionary and stochastically stable. From this we may conclude that local DOM is cross-linguistically very common: 'Almost all accusative languages have DOM' (Jäger 2007:102).

## 5 Summary

- relation between the cross-linguistic parameters of variation in differential object marking
- which phenomena should be subsumed under DOM?
- the role of verb semantics in the historical development of DOM
- when DOM is neither obligatory nor ungrammatical, it may be conditioned by a complex interaction of properties and factors
- The challenge posed by the synchronic and diachronic variation in DOM is to adequately model the language-specific aspects of DOM while at the same time accounting for the cross-linguistically recurrent patterns.

## A Development of DOM in Spanish

Percentage of DOM with definite human direct objects (number of all definite human objects in brackets; Bible translations of 1+2 Samuel and 1+2 Kings):

class	verb	A: 14th cent.	B: 16th/17th cent.	C: 20th cent. (Euro)	D: 20th cent. (Am)
3	poner	25% (4)	50% (6)	83% (6)	100% (6)
	tomar	31% (19)	23% (17)	62% (24)	68% (25)
	<b>sum</b>	<b>30% (23)</b>	<b>30% (23)</b>	<b>67% (30)</b>	<b>74% (31)</b>
2	ver	35% (20)	41% (22)	83% (29)	75% (20)
	hallar	50% (4)	80% (5)	66% (3)	75% (4)
	<b>sum</b>	<b>38% (24)</b>	<b>48% (27)</b>	<b>81% (32)</b>	<b>75% (24)</b>
1	matar	59% (32)	85% (27)	92% (27)	100% (27)
	herir	62% (8)	48% (29)	83% (12)	81% (16)
	<b>sum</b>	<b>60% (40)</b>	<b>66% (56)</b>	<b>92% (39)</b>	<b>93% (43)</b>

Percentage of DOM with indefinite human direct objects (number of all indefinite human objects in brackets; Bible translations of 1+2 Samuel and 1+2 Kings):

class	verb	A: 14th cent.	B: 16th/17th cent.	C: 20th cent. (Euro)	D: 20th cent. (Am)
3	poner	0% (7)	0% (14)	14% (7)	0% (9)
	tomar	0% (8)	0% (14)	20% (5)	28% (7)
	<b>sum</b>	<b>0% (15)</b>	<b>0% (28)</b>	<b>17% (12)</b>	<b>13% (16)</b>
2	ver	0% (7)	02% (10)	50% (8)	56% (9)
	hallar	0% (4)	0% (3)	33% (3)	100% (3)
	<b>sum</b>	<b>0% (11)</b>	<b>15% (13)</b>	<b>45% (11)</b>	<b>67% (12)</b>
1	matar	7% (14)	14% (7)	87% (8)	100% (9)
	herir	-% (0)	0% (7)	100% (3)	100% (4)
	<b>sum</b>	<b>7% (14)</b>	<b>7% (14)</b>	<b>90% (11)</b>	<b>100% (13)</b>

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