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## Ambiguity avoidance vs. expectation sensitivity as functional factors in language change and language structures: Beyond argument marking

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# I. Does ambiguity avoidance explain differential argument marking?

differential patient flagging:

(I) Spanish

- a. (inanimate P)
  Vi la casa.
  I.saw the house
  'I saw the house.'
- b. (animate P)
  Vi a la mujer.
  I.saw ACC the woman
  'I saw the woman.'

(flagging = case-marking or adpositional marking)

differential recipient flagging:

(2) Northeastern Neo-Aramaic of Telkepe (Coghill 2010)

- a. (person-form R) *kəm-yāwəl-lə hadiynD* PST-he.give-3SG.M.OBJ present 'He gave him a present.' (= Coghill's 14c)
- b. (full nominal R)
  wəl-lə pārə ta xa-məskenD
  gave-he money to a.certain-poor.person
  'He gave money to a certain poor person.' (=Coghill's 11b)

There is a long tradition of invoking ambiguity avoidance **("anti-ambguity")** as a functional factor in explaining the rise of differential object flagging (DOF):

e.g. Caldwell (1856: 271): special accusative flagging in Dravidian is employed "in order to **avoid misapprehension**"

e.g. Comrie (1977: 16)

"Differential case-assignment to subjects and direct objects serves the function of **distinguishing subjects from direct objects**... [Some] languages have differential case-assignment only where **confusion** between subject and direct object is particularly likely..." e.g. Aissen (2003: 437) "it is those direct objects which are most in need of being **distinguished from subjects** that get overtly case-marked"

Functional linguists have often talked about a "discriminatory function" of case-marking (or flagging) (e.g. Malchukov 2008).

But more recently, some authors have contrasted anti-ambiguity as a motivating factor with "predictability-based marking" or "expectation sensitivity" (e.g. Haspelmath 2019a: §8; Tal et al. 2022: §1.2; see also Zehentner 2022 for discussion).

The **anti-ambiguity** views basically says:

- 'the house' is unlike typical subjects (in being inanimate) and thus needs no flag
   'the woman' is animate and **can be confused** with subjects, thus it needs a flag
- (1a) Vi la casa. (1b) Vi **a** la mujer. 'I saw the house.' 'I saw the woman.'

The **counter-expectation** view basically says:

- typical objects are inanimate, so it's expected that 'the house' is an object
- typical subjects are animate, so 'the woman' is unexpected as object and needs a flag
- **2. Ambiguity is overrated** (cf. Wasow 2015)

Communication does not simply consist in the transmision of "sets of complete thoughts" – it is not merely **encoding and decoding** (cf. Bohnemeyer 2024).

Communication can be thought of as consisting primarily in **filling in a few gaps** in the interlocutor's knowledge state.

To a substantial extent, the structures of languages can be understood as resulting from an **efficient trade-off between speaker effort and hearer needs** – and what the hearer primarily needs is signals about unexpected parts of messages. **Speakers must be sensitive to the hearer's expectations**.

But shouldn't speakers also worry about ambiguity?

(cf. Grice's maxim: "Avoid ambiguity!")

Well, ambiguity or vagueness is rampant in language anyway, e.g.

A: What did you do over the weekend?B: I went to the zoo.[one of thousands of things, but the least expected]

Subject-object ambiguity seems particularly hard to tolerate, because there's a huge difference between, e.g.

The dog bit the postman. The postman bit the dog.

But is the difference really so big? cf.

Every 11 minutes a single falls in love through Parship.

This sentence is ambiguous, but some readings are far more likely than others.

Even classical structural ambiguity is usually tolerated, e.g. "PP-attachment ambiguity":

A: I rushed out and killed a huge lion in my pajamas.B: How did the lion get in your pajamas? (Seewoester 2009)

## 3. Language change often creates ambiguity

While ambiguity avoidance has sometimes been mentioned as explaining aspects of change, the creation of ambiguity or multifunctionality is also frequently observed.

E.g. in lexical-semantic change, where **semantic extension** and **metaphorical/metonymic shift** is rampant, e.g.

table	'piece of furniture'	>	'tabular diagram'
þaper	'material for writing'	>	'short scientific work'
flag	'cloth for signalling'	>	'case-marker or adposition'

In the study of grammatical markers, we often observe multifunctionality patterns, and in cross-linguistic research, we often present them as **"semantic maps"** (Haspelmath 2003: Georgakopoulos & Polis 2018):





Such diagrams have often been said to show **"polysemy patterns"** (i.e. ambiguity patterns), but in many cases, the language-particular forms show **indeterminacy** (or "vagueness", "underspecification").

(For this reason, it is better to use the general term *coexpression*, and to call these diagrams **coexpression diagrams**, Haspelmath 2024.)

Perhaps ambiguity/polysemy is somehow dispreferred, but indeterminacy **cannot be dispreferred** (by definition).

Brochhagen & Boleda (2022) propose

"a Goldilocks principle that balances the two pressures: meanings are more likely to attach to the same word when they are related to an optimal degree – neither too much, nor too little."

> e.g. languages do not colexify 'left' & 'right', or 'small' & 'big', etc. – but surely this is not only because these meanings are "too related"

It seems clear that lexical polysemy/ambiguity is very often completely unproblematic, and perhaps even **efficient** (Piantadosi & al. 2012; Gibson et al. 2019).

## 4. Expectation sensitivity explains DOF (differential object flagging) better than ambiguity avoidance

**4.1.** DOF may occur when the subject is ergative (and there is no ambiguity)

e.g. Hindi-Urdu

 larke=ne
 gārī
 calāyī
 hai

 boy:OBL=ERG
 car
 drive:PRE:FEM:SG
 be:PRES:3.SG

 'The boy has driven the car.'

 larke=ne
 gārī=ko
 calāyā
 hai

 boy:OBL=ERG
 car=ACC
 drive:PRF:MASC:SG
 be:PRES:3.SG

 'The boy has driven the car.'

e.g. Dyirbal (Australian)

[p ŋana-na] [A ŋuma-ŋgu] bura-n we-ACC father-ERG see-NONFUT 'Father saw us.' (Dixon 1994: 130)

4.2. DOF is occasionally manifested in shorter vs. longer accusative marking

e.g. Evenki	definite accusative indefinite accusative	-va -(j)a	(Nedjalkov 1997)	
<b>4.3.</b> DOF ma	y be innovated for cas	ses where	there is an existing accusative distinctio	'n
e.g. Portugue	se preposition a	i+ only wi	ith personal pronouns,	
		·	e.g. <i>a mim</i> 'me'	
e.g. Ge'ez	preposition <i>l</i> even though	a+ for ani the old Se	mate objects, emitic accusative <i>-a</i> was preserved	

The general principle of differential argument flagging (Haspelmath 2021b):

Deviations from **usual associations** of role rank and referential prominence tend to be coded by longer grammatical forms if the coding is asymmetric.

On the one hand, this principle lets us expect **more extra coding** than a simple ambiguity explanation, but on the other hand, **ambiguity is not intolerable** (cf. Moravcsik 1978) – it is merely dispreferred.

### 5. Expectation sensitivity also explains differential R flagging (DRF)

(Haspelmath 2021b)

**5.1.** Special R marking may occur when the R is not topical

English She gave me the money. vs. She gave the money to me.

(no ambiguity because English R-T order is rigid)

5.2. Special R marking when the T is not a full nominal

English She gave me the money. vs. She gave it to me.

(\*She gave me it; would not be ambiguous)

**5.3.** Special R marking when the T is not 3rd person

Modern Greek	su	ton	éðose	VS.	*tu	se	éðose
	you.DAT him.ACC	gave ou'		him.DAT	you.ACC	gave	
	'she gave him to y			'she gave	you to hi	i <b>m'</b>	

(OK: tu édose eséna, with a strong pronoun)

Sometimes, differential R marking does seem to help avoid ambiguity, e.g.

French \*il me te présentera 'he will present me to you' OK: il me présentera **à** toi

But this is not the general pattern – such "person-case effects" are independent of ambiguity (see Haspelmath 2004)

Since recipients are typically similar to agents in terms of referential prominence (as noted by Zehentner 2022), one might expect languages to show agent-recipient scenario-based differential flagging, but this does not seem to be attested.

#### 6. Expectation sensitivity also explains differential place marking (Haspelmath 2019a)

6.1. Special place marking when the place is not inanimate

Italian

an vado **a**-lla chiesa vs. vado **da**-l poliziotto 'I go to the church' 'I walk up to the policeman'

(This could conceivably be explained like differential object flagging, because human places are more like subjects.)

6.2. Differential zero-marking when the place is a place-name

e.g. in Maltese (Stolz et al. 2017: 463)

Jgħallem Għawdex. 3SG.M.IMPFV.teach Gozo 'He teaches on Gozo (an island).'

Jgħallemf-l-iskejjelta-l-Gvern.3SG.M.IMPFV.teach in-DEF-schoolsof-the government'He teaches in the schools of the government.'

Place-names are **not less confusable with subjects** than common place nouns, so their reduced coding can only be explained by expectation sensitivity.

## 7. Expectation sensitivity also explains other cases of differential coding

e.g. special independent coding with possessor pronouns (Michaelis 2019)

English my house is over there \*my is over there

OK: mine is over there

e.g. special **possessive coding** with alienable nouns

Maltese *id-i* 'my hand' \*ktieb-i 'my book'

OK: il-ktieb tiegħ-i

e.g. special **causative coding** with agentive base verbs (Haspelmath 2016)

English (It opened vs.) We opened it (She laughed vs.) \*We laughed her

OK: we **made** her laugh

e.g. special singulative coding with multiplex-prominent nouns (Haspelmath & Karjus 2017)

Maltese ktieb 'book' (\*zarbun 'shoe')

OK: zarbun-a ('shoe')

In all these differential-coding situations, expectation sensitivity provides a good explanation of the typological patterns and their diachronic motivations, while ambiguity avoidance is typically irrelevant.

This is **a very indirect argument** against anti-ambiguity explanations, but since the understanding of diachronic change typically relies on indirect inferences, these considerations seem highly relevant to the broader picture.

## 8. Closing remarks: Diachrony and functional motivations

#### Counter-expectation vs. anti-ambiguity

Ambiguity avoidance seems to play **some** role in explaining language systems – after all, we need to make clear what we mean.

But is it relevant to explaining general tendencies of asymmetric coding in grammar? ("markedness asymmetries" and differential coding tendencies)

(Haspelmath 2017)

An alternative explanation points to **expectation sensitivity** of grammatical marking (Haspelmath 2021a):

"Grammars code most what hearers expect least."

https://twitter.com/haspelmath/status/1697908122256351468

We need expectation sensitivity anyway, but do we need ambiguity avoidance in addition? This is not clear – the burden of proof seems to be on those who want to argue for ambiguity avoidance as an extra factor.

#### The role of diachrony in functional explanation

**Functional-adaptive explanations** have a crucial diachronic component (Greenberg 1969; Bybee 1988; Haspelmath 1999):

Language structures are malleable, and in language change, the more adaptive ones have a higher chance of survival – as in biological evolution.

But this does not mean that most language change is adaptive – in fact, **most of it may well be non-adaptive or random**.

Functional motivations are often plausible, but the functional-adaptive value of a pattern can be proven only on the basis of large-scale cross-linguistic research: Universal functional factors should result in **universal synchornic tendencies** in languages.

Thus, in contrast to Bybee (1988) and Cristofaro (2019), I do not think that we need to demonstrate the functional-adaptive value of particular changes (Haspelmath 2019b).

**Differential-coding patterns** of various kinds look very much like they are functionally motivated – apparently by expectation sensitivity rather than ambiguity avoidance – but this need not be clearly visible in the diachronic pathways.

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