

# Definiteness and information structure

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## Preverbal bare nominals (BNs): variation across languages

### English

- (1) a. *Dogs are mammals* *bare plurals*  
 b. *Dogs bark*

### Catalan

- (2) a. *\*(Els) gossos són mamífers* *definite plurals*  
 b. *\*(Els) gossos borden*

- cf. Carlson (1977), Chierchia (1998), Dobrovie-Sorin & Laca (1996, 2003); Borik & Espinal (2015)

## Preverbal BNs: variation across languages

English

- (3) a. \**Dog is a mammal* *bare singular*  
 b. \**Dog barks / is barking*

Catalan

- (4) a. \*(*El*) *gos és un mamífer* *definite singular*  
 b. \*(*El*) *gos borda*

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## Preverbal BNs: variation across languages

Russian

- (5) a. *Amurskie tigry* *skoro* *isčeznut* *bare plural*  
 Amur tigers.3PL soon will.be.extinct.3PL  
 “Amur tigers will be extinct soon.”  
 b. *Amurskij tigr* *skoro isčeznet* *bare singular*  
 Amur tiger.3SG soon will.be.extinct.3SG  
 “The Amur tiger will be extinct soon.”  
 (Dària Serés, p.c.)

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## Preverbal BNs: variation across languages

Brazilian Portuguese

- (6) a. *No ano 2030, gaviões-reais vão estar extintos.*  
 in-the year 2030 hawks-royals will.3PLbe extinct.PL  
 “In the year 2030, royal hawks will be extinct.”
- b. *No ano 2030, gavião-real vai estar extinto*  
 in-the year 2030 hawk-royal will.3SG be extinct  
 “In the year 2030, royal hawks will be extinct.”  
 (Munn & Schmitt 2005)

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## Some mismatches and differences in preverbal position

- English allows bare plurals but not bare singulars
- Catalan allows neither bare plurals nor bare singulars, but definite expressions
- Russian (without articles) allows both bare plurals and bare singulars
- Brazilian Portuguese (with articles) allows both bare plurals and bare singulars

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## Questions

- Is what we call 'bare plurals' and 'bare singulars' the same category across languages?
- What is the status of preverbal BNs in languages with and without articles?
  - What are their formal properties?
  - What do they denote?
  - Is their interpretation sensitive to Information Structure (IS) considerations?
- What can be inferred from the study of BNs and IS with respect to the architecture of grammar?

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## Aim and hypotheses

- **Aim:** To address the formal and interpretive properties of preverbal BNs
- **Hypotheses:**
  - Preverbal BNs are DPs in Brazilian Portuguese (as overt DPs in Catalan). They are probably NumPs in other languages (e.g., English).
  - DPs and NumPs are possibly both available in Russian (for definite kinds and kind bare plurals, respectively)
  - The interpretation of preverbal BNs is sensitive to IS, which needs to be translated into a representation of meaning different from classical LFs in generative grammar.

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## Theoretical background

- On NP/DP considerations: Longobardi 2001, Bošković 2005, Bošković & Gajewski 2008.
- On Number: Wiltschko 2008, Mathieu 2014.
- On information packaging: Halliday 1967, Chafe 1976, Vallduví 1992, 1993, Cohen & Erteschik-Shir 2002, Erteschik-Shir 1997, 2007, Krifka 2007, Neeleman & van de Koot 2008.
- On the architecture of grammar: Bobaljik & Wurmbrand 2012, Espinal & Villalba 2015.

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## Road map

- I. Discuss phenomena that show a non-uniform behavior of BNs across languages (mainly in Romance), focusing on the form and meaning of what looks like preverbal bare plurals and bare singulars
- II. Argue that preverbal BNs are parametrized: those corresponding to DPs (with null Ds) and those corresponding to NumPs
- III. Propose a correlation between informational topics and a particular extended projection of the noun (*topic BNs are definite DPs*) on the one hand, and a correlation between the interpretation of topics and the design of grammar (*IS feeds logical form*) on the other

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## I. Variation due to types of predicates.

Brazilian Portuguese

- (7) a. *Baleia está em extinção.* *k-level*  
 whale be.3SG in extinction.  
 'Whales are/the whale is on the verge of extinction.' (Pires de Oliveira & Rothstein 2011)
- b. *Panda é comum na China.* *i-level*  
 panda is common in-the.F China.  
 'Pandas are common in China.' (Cyrino & Espinal 2015)
- c. *%Menino jogou bola.* *s-level*  
 child played.3SG ball  
 'Boys played soccer.' (Pires de Oliveira & Rothstein 2011)

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## I. Variation due to types of sentences

Brazilian Portuguese

- (8) a. *Criança lê revistinha.* *generic*  
 child read.3SG comic.book  
 'Children read comic books.' (Munn & Schmitt 2005)
- b. *Coreano vende roupa pra brasileiro.* *generic*  
 Korean sells clothes to Brazilian  
 'Koreans sell clothes to Brazilians.' (Müller 2004)
- c. *%Homem chegou na Lua em 1969.* *episodic*  
 man arrived in-the.F Moon in 1969  
 'Men set foot on the Moon in 1969.' (Müller & Oliveira 2004)

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## I. Variation due to IS considerations

Russian (Geist 2010)

- (9) a. %*Meteorit* *upal.*  
 meteorite came.down  
 'A meteorite came down'.
- b. *Upal* *meteorit.* *Thetic statement → indefinite reading*  
 came.down meteorite  
 'A meteorite came down'.
- (10) *Student znaet japonskij jazyk.* *Categorical statement → definite reading*  
 student knows Japanese language  
 'The student (we spoke about yesterday) knows Japanese.'

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## I. Variation due to IS considerations

Cohen & Erteschik-Shir (2002) for English:

- *Topic bare plurals* are interpreted *generically*
  - They must be specific
  - They refer to kinds
- *Focus bare plurals* are interpreted *existentially*
  - They denote properties that are incorporated into the predicate
  - They do not introduce discourse referents

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## I, II. Definite topics that refer to individual entities

- Preverbal BNs (nominal expressions apparently unspecified for Number and Definiteness) in Brazilian Portuguese
  - What is the interpretation of preverbal BNs from a theory of IS that follows a Structure Meaning Approach? (Jacobs 1983; Krifka 1991, 1992, 1993; von Stechow 1991)
  - What is the informational status of BNs that occur in preverbal position of s-level predicates? (focus vs. topic, existential vs. generic, indefinite vs. definite)

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## I, II. Definite topics that refer to individual entities (Espinal & Villalba 2015)

Brazilian Portuguese (exs. from S. Cyrino, p.c.)

- (11) %*Político* ganhou benefício do governo.  
 politician obtained benefit of.the government  
 'Politicians obtained benefits from the government.'
- (12) A. *Ontem* teve protesto de empregada doméstica no Rio.  
 'Yesterday, there was a protest by maids in Rio.'
- B. *Não, professor* eles protestaram ontem no Rio.  
 not teacher they protested yesterday in Rio  
 'No, teachers protested yesterday in Rio.'

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## I, II. Definite topics that refer to individual entities (Espinal & Villalba 2015)

- The previous sentences have strong similarities with sentences where preverbal BNs precede i-level and k-level predicates, and with sentences where preverbal BNs combine with s-level predicates in generic / habitual contexts

- (13) a. *Panda é comum na China.*  
panda is common in.the.F China  
'Pandas are common in China.' (Cyrino & Espinal 2015)
- b. *Professor trabalhava muito antigamente.*  
teacher work.PAST.IMP.3SG a.lot in.the.past  
'Teachers worked a lot in the past.' (Cyrino & Espinal 2015)

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## I, II. Definite topics that refer to individual entities (Espinal & Villalba 2015)

- There is also a strong similarity with sentences that express categorical judgments (Kuroda 1972), built in Brazilian Portuguese by means of a left-dislocated full DP (with an overt D in topic position) followed by an overt third person resumptive pronoun in subject position (Britto 2000: exs. (1) and (9b))

- (14) a. *Esses rapazes eles são muito bonitos.*  
these guys they are very handsome.PL  
'These guys are very handsome.'
- b. *Um homem comum ele tem um conforto (...)*  
a man common he has a comfort  
'A common man has comfort (...)'

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## I, II. Definite topics that refer to individual entities (Espinal & Villalba 2015)

- In all these cases we may claim that a topic (i.e., a psychological subject, Gabelentz 1869; a logical subject, Brentano 1862, 1867, Marty 1918) is followed by a comment (i.e., a predication, that is, the act of affirming or denying what is expressed by the predicate about the subject; Kuroda 1972)
- [topic \* [COMMENT FOCUS [BACKGROUND ... ]]] Neeleman & van de Koot (2008)
- Link-focus-tail Vallduví (1992, 1993)
- SUBJECT<sub>top</sub> [ ... X ... ]<sub>foc</sub> Erteschik-Shir (1997, 2007)
- <Topic <Background, Focus>> Krifka (1992, 2008)

[Notice that the latter structure, although apparently the reverse of (a), introduces a background – topic part, followed by a focus – comment part]

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## I, II. Definite topics that refer to individual entities

- This particular organization into topic and comment (or <B, F>) reveals a specific packaging phenomenon, according to which the constituent that counts as a topic
  - narrows or changes the current discourse topic,
  - is selected from the set of referents previously introduced in the discourse, and
  - is necessarily specific, since it identifies the element(s) in the common ground that the sentence is about (Erteschik-Shir 1997, Cohen & Erteschik-Shir 2002).
- For our purposes it is sufficient to say that the notion of topic is a cover term for these interpretive effects.

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## I, II. Definite topics that refer to individual entities

- Those preverbal BNs exemplified here have been argued to be DPs (Cyrino & Espinal 2015)
- Test based on *coordination of nominal expressions* (Longobardi 1994)

(15)a. A gerente e a diretora trabalham no banco.  
 the manager and the director work.3PL in.the bank  
 'The manager and the director work at the bank.' [Two persons]

b. A gerente e diretora trabalha no banco.  
 the manager and director work.3SG in.the bank  
 'The manager and director work at the bank.' [One and the same person]

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 manager and director work.3PL in.the bank  
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b. Gerente e diretora trabalha no banco.  
 manager and director work.3SG in.the bank  
 '(The) manager and director work at the bank.' [One and the same person]

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## I, II. Definite topics that refer to individual entities

- Those preverbal BNs exemplified here have been argued to be DPs (Cyrino & Espinal 2015)
- Test based on *bare habituals* (Ferreira 2005, de Swart 2006)

(17)a. *Criança lê revistinha. Elas/\*ela gosta(m) dos desenhos.*  
 child reads comic-book they/she like(s) of.the drawings.  
 '(The) children read comic books. They like the drawings.'

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## I, II. Definite topics that refer to individual entities

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- Test based on *bare habituals* (Ferreira 2005, de Swart 2006)

(17) b. *Coelho vê o mundo de outra maneira, porque eles/\*ele são muito pequenos.*  
 rabbit sees the world of other manner because them/it are very small  
 '(The) rabbits see the world in a different manner, because they are very small.' (Cyrino & Espinal 2015)

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## I, II. Definite topics that refer to individual entities

- In Cyrino & Espinal (2015) it is postulated that preverbal BNs have the structure attributed to logical subjects/topics of categorical judgments, with either a covert or an overt third person resumptive pronoun in syntactic subject position

- (18) a.  $[_{TOP} [_{DP[+PL]} \emptyset [_{NumP} Num_{[+PL]} [_{N} \text{político}]]]] [_{IP} \text{pro ganhou benefício do governo}]$
- b.  $[_{TOP} [_{DP[+PL]} \emptyset [_{NumP} Num_{[+PL]} [_{N} \text{professor}]]]] [_{IP} \text{eles protestaram ontem no Rio}]$

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## I, II. Definite topics that refer to individual entities

- In accordance with the syntactic analysis in (18), preverbal BNs have a *strong reading* (i.e., they can be interpreted neither as weak definites nor as weak indefinites) that corresponds to a *DP structure*.
  - They can only be interpreted as referring to the *maximal plurality of individuals* that satisfy the property denoted by the noun and,
  - they can only be interpreted as *associated with a presupposition of existence*, as is the case with definite overt DPs

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## I, II. Definite topics that refer to individual entities

- Those preverbal BNs studied here are interpreted in a contrastive context. In Krifka's (2007) terms they correspond to *contrastive topics*.
  - Prosodically, they are topics with a rising intonation;
  - syntactically, they are topics containing a focus; and,
  - semantically, preverbal BNs refer to an aboutness topic containing a denotation focus, which is the constituent indicating that there are alternatives at the level of the denotation

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## I, II. Definite topics that refer to individual entities

- This means that, in order to be able to assign meaning to the syntactic structures in (18), it is necessary to map these structures into *ISs that have two foci*.
  - the one contained within the informational topic and
  - the one that is contained within the comment (Krifka 2007).

- (19) a. [topic [focus poLítico]] [comment [focus gaNHOU] beneficio do governo]
- b. [topic [focus profesSOR]] [comment eles [focus protesTaram] ontem no Rio]

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## I, II. Definite topics that refer to individual entities

- Support for this analysis: the examples studied here cannot be the answer to *wh-questions* unless a contrastive context is built into the *wh-question*:

(20) A: *Quem protestou ontem no Rio, professor ou empregada doméstica?*

‘Who protested yesterday in Rio, teachers or maids?’

B: *Professor eles protestaram ontem no Rio.*

teacher they protested yesterday in Rio

‘(The) teachers protested yesterday in Rio.’ [=“the maximal sum of all the professors relevant in the discourse domain protested in Rio yesterday”]

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## I, II. Definite topics that refer to individual entities

- The syntactic structures in (18) and the ISs in (19) guarantee that the preverbal BNs are interpreted as *informational topics with a strong discourse reference and a denotation focus*

(21) a. *Categorical judgments: ‘bare singular’ (=definite plural) > ∇*

*%Jogador visitou todos os projetos sociais.*

player visited all.PL the.PL projects social.PL

‘(The) PLAYERS visited all the social projects.’

b. *%Estudante trabalhou em todas as avenidas.*

students worked in all.PL the.PL avenues

‘(The) STUDENTS worked in all the avenues.’

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## I, II. Definite topics that refer to individual entities

- The logical form corresponding to an example such as (12B), repeated here as (22), has the representation in (23).

- (22) A. **Ontem** **teve protesto de empregada doméstica no** **Rio.**  
 yesterday had protest of employee domestic in Rio  
 ‘Yesterday, there was a protest by maids in Rio.’
- B. **Não, professor eles protestaram ontem no** **Rio.**  
 not teacher they protested yesterday in Rio  
 ‘No, (the) teachers protested yesterday in Rio.’
- (23)  $\langle \iota X[\text{professor}(X) \wedge \lambda P[P(X)]] \rangle, \langle \text{protestou ontem no Rio} \rangle$

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## I, II. Definite topics that refer to individual entities

- Cf. *Thetic judgments*

- (24) a. **Todas as escolas foram visitadas por jogador.**  
 all.F.PL the.F.PL schools were visited by player  
 ‘All schools were visited by the player(s)/players/a player.’
- b. **Demitiram professor./ Demitiu-se professor.**  
 fired teacher fired-REFL teacher  
 ‘The/a teacher was fired.’

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## I, II. Definite topics that refer to individual entities

- Cf. Thetic judgments:

(24) c. *Professor* foi demitido da *universidade*.  
 professor was fired of.the.F university  
 'The/a professor was fired from the university.'

### Properties:

- Passive sentences
- The interpretation of the preverbal BNs is supposed to follow a process of reconstruction
- Existential reading of the subject BN, interpreted as part of the information focus

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## Recap

- Preverbal BNs correspond to definite topics
- Preverbal BNs have a strong construal: are interpreted as DPs that refer to individual entities (object individuals or kind entities)

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### III. Interpretation of BN topics and the design of grammar

- If IS was part of LF (Bobaljik & Wurmbrand 2012) one would expect that the categorical judgments under study would allow an existential reading for the preverbal BN
- LF being a syntactic level of meaning representation, the constituent in syntactic topic position should have a copy in internal argument position, where it is to be semantically reconstructed, but such a reading is not available for these examples
- Since preverbal topic BNs cannot be submitted to  $\exists$ -closure, the identification of IS topics cannot be part of LF and must precede a formal representation of meaning
- IS>>logical form

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### III. Interpretation of BN topics and the design of grammar

- Preverbal BNs in the categorical judgments in (7a), (8a) and (21) require contrastiveness. Why?
  - In the absence of a predicate that constrains a generic reading (i.e., an i-level or a k-level predicate),
  - in the absence of an overt generic operator (i.e., a universal quantifier over events) and
  - in the absence of an overt definite article, *contrastiveness* (which also has specific prosodic correlates such as accent placement and intonation contours) is the *strategy that encodes that the preverbal BN must have a strong reading* (i.e., a strong construal, with a presuppositional interpretation).

- IS>>PF

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## Interim conclusions

- An IS level of representation receives independent support from preverbal Brazilian Portuguese BNs that refer to an *aboutness topic containing a denotation focus*
- In spite of combining with a s-level predicate in an episodic context, these preverbal BNs are best interpreted as *topics with a strong construal: DPs* (like logical subjects of categorical judgments)
- The operation of mapping a syntactic constituent with a contrastive topic must precede the logical operation of existential closure, and it must also precede the PF prosodic operations of accent placement and intonation assignment
  - IS interpretation requires an *IS>>logical form interface*
  - IS realization supports an *IS>>PF interface*

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## Definite topics that refer to abstract semantic objects

- Based on Villalba & Espinal (2016)
- Next, what is the IS construal of a topic that in spite of being *definite* makes reference to *abstract semantic objects*?
- This is the case of inherent definite feminine clitics that encode abstract semantic objects (i.e., indeterminate objects, properties, propositions, facts, atemporal situations) in idiomatic constructions
- We argue that *reference to abstract objects in IS configurations* is what constrains the *atelic* aspectual properties of idioms with inherent clitics

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## Idiomatically Combining Expressions (Nunberg et al. 1994)

- McGinnis (2002): homomorphism between form and meaning both in non-idiomatic and idiomatic expressions

### *Non-idiomatic*

- (25) a. Harry hung pictures/laundry for/#in an hour. ATELIC  
 b. Hermione hung a picture in five minutes. TELIC

### *Idiomatic*

- (26) a. Harry hung fire for / #in a week. 'to wait' ATELIC  
 b. Hermione hung a left in five minutes. 'to turn left' TELIC

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## Idiomatically Combining Expressions

- Against McGinnis (2002): VP idioms with object definite clitics

### *Non-idiomatic*

- (27) a. [la prova] [la] va passar en cinc minuts TELIC  
 the.F proof it.ACC.FEM.SG passed in five minutes  
 '(S)he passed the test in five minutes.'
- b. [la pilota] [la] va tirar allà en un moment TELIC  
 the.F ball it.ACC.FEM.SG threw there in a moment  
 '(S)he threw the ball in a moment.'

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## Idiomatically Combining Expressions

- Against McGinnis (2002): VP idioms with object definite clitics

### *Idiomatic*

(28)a. *Ja l'ha passat, ja, aquesta dona.* ATELIC

already it.ACC.FEM.SG.has passed already this woman

'This woman has been suffering (for a long time).'

b. *La Maria les tira amb bala.* ATELIC

the Maria them.ACC.FEM.PL throw with bullet

'Maria speaks wryly.'

*La*: DEF.F.SG clitic -> unspecified situation

*Les*: DEF.F.PL clitic -> indeterminate object

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## Idiomatically Combining Expressions

### Hypotheses:

- Syntactic definiteness is not the key factor involved in modifying the aspectual contribution of predicates to the expressions' telicity or atelicity
- Rather, a semantic factor, such as the type of reference of the object argument, must be considered, and it is therefore necessary to distinguish between objects referring to individual entities and objects having abstract semantic denotations (Asher 1993, Moltmann 2013)

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## Idiomatically Combining Expressions

- When the Background contains a highly salient antecedent that refers to a highly identifiable individual entity, the definite feminine clitic is interpreted as co-referring with this antecedent

- (29) a. *Aquella prova, la va passar.*  
 that test it.ACC.FEM.SG PAST.3SG pass  
 'That test (s)he passed.'
- b.  $\langle \lambda x \lambda e [V(e) \ \& \ \text{Theme}(e)=x](\text{aquella prova}_i), \langle \text{la}_i \text{ va pasar} \rangle \rangle$

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## Idiomatically Combining Expressions

- When there is no referential antecedent available for the inherent definite feminine clitic in a salient Background position, the clitic can neither saturate the theme/patient argument of the predicate, nor provide it with an incremental theme interpretation, with the outcome that the whole predicate obtains an idiomatic ATELIC reading.

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## Idiomatically Combining Expressions

- (30) a. *La Maria les tira amb bala.*  
 the Mary them.ACC.FEM.PL throwwith bullet  
 'Mary speaks wryly.'
- b.  $\langle \lambda P \lambda e [P-V(e)] (\text{the words}), \langle \text{les\_tira\_amb\_bala} \rangle \rangle$   
 (where P-V means that P modifies V by pseudo-incorporation)

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## Idiomatically Combining Expressions

- (31) a. *Durant la guerra*  
 during the war  
*la va passar magra*  
 it.ACC.FEM.SG PAST.3SG pass.INF thin  
 'During the war, she suffered.'
- b.  $\langle \lambda P \lambda e [P-V(e) \ \& \ \text{durant\_la\_guerra}(e)](s), \langle \text{la va passar magra} \rangle \rangle$   
 (s= situation)

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## Idiomatically Combining Expressions

To sum up:

- definite topics that refer to abstract semantic objects are responsible for TELIC to ATELIC shifts in VP idioms;
- the existence of a semantic object conveying an abstract denotation in the Background part of the IS accounts for the fact that the object is not interpretable as an incremental theme, given that incremental relations take place between individual object entities located in spatiotemporal events;
- IS>>logical form

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## General conclusion

From the study of preverbal BNs in Brazilian Portuguese and inherent definite clitics in Catalan we conclude that IS cannot be considered part of syntax (LF included), but must be conceived as a post-syntactic level of representation that feeds both the logical form and the PF interfaces

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## Selected references

- Cyrino, S. & M. T. Espinal. 2015. Bare Nominals in Brazilian Portuguese: more on the DP/NP analysis. *NL&LT* 33(2). 471–521.
- Espinal, M. T. & X. Villalba. 2015. Ambiguity resolution and information structure. Article. *TLR* 31(4). 667–692.
- Krifka, M. 2008. Basic notions of information structure. *Acta Linguistica Hungarica* 55(3). 243–276.
- McGinnis, M. 2002. On the Systematic Aspect of Idioms. *LI* 33(3). 665–672.
- Müller, A. 2004. Tópico, foco e nominais nus no português brasileiro. In L. Negri, M. J. Foltran & R. Pires de Oliveira (eds.), *Sentido e significação*, 77–95. São Paulo: Contexto.
- Müller, A. & F. Oliveira. 2004. Bare Nominals and Number in Brazilian and European Portuguese. *Journal of Portuguese Linguistics* 3. 9–36.
- Munn, A. & C. Schmitt. 2005. Number and indefinites. *Lingua* 115(6). 821–855.
- Neeleman, A. & H. van de Koot. 2008. Dutch scrambling and the nature of discourse templates. *JCGL* 11(2). 137–189.
- Pires de Oliveira, R. & S. Rothstein. 2011. Bare singular noun phrases are mass in Brazilian Portuguese. *Lingua* 121(15). 2153–2175.
- Villalba, X. & M. T. Espinal. 2016. Clitics and telicity in phrasal idioms. Ms. UAB.