

# Prosòdia, focus i ordre de mots en català i espanyol: una anàlisi amb la Teoria de l'Optimitat

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# Introduction

General assumptions for focus in Catalan and Spanish:

- **Neutrally focused elements** [<sub>F</sub> ...] **in sentence final position** (1a)  
[where they receive main stress by means of the *Nuclear Stress Rule* (NSR, Chomsky & Halle 1968, Zubizarreta 1998)].
  - No prominence shift ((1b); unlike English or German)
  - **Spanish: p-movement** (Zubizarreta 1998, 1999)  
non-focal material is moved to a non-final position as the result of prosodic demands (1c).
- (1) a. *Los alumnos se enfrentaron [<sub>F</sub> con la policía]*. canonical WO  
‘The students confronted the police’.
- b. \**[<sub>F</sub> Los alumnos] se enfrentaron con la policía*. in situ-marking
- c. *Se enfrentaron con la policía [<sub>F</sub> los alumnos]*. p-movement



# Introduction

- Other strategies such as focus fronting (4), clefting (5) or focus marked prosodically *in situ* (2b) seem to be restricted to **contrastive meaning** (Solà 1990, 2002, Quer 2002, Vallduví 1991, 1992, 2002; Zubizarreta 1998, 1999, Moreno Cabrera 1999).

(4) [<sub>CF</sub> Un Mercedes] s'ha comprat el Jordi.                      focus fronting  
'Jordi has bought a Mercedes'.

(5) Sou [<sub>CF</sub> vosaltres] que ho sabeu.                                      clefting  
'It is you who knows it'.

Interestingly, what most of these studies have in common is the fact that

- they make use of introspection and grammaticality judgments, and
- they tend to concentrate on standard varieties of Catalan and Spanish.

# Introduction

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- Recent empirical studies on the intonation of focus in Catalan and Spanish cast doubt on claims made by Vallduví (1991, 1992) and Zubizarreta (1998).
- Gabriel et al. (2009), Gabriel (2010), Muntendam (2009, 2013), Leal-Méndez & Shea (2012), Hoot (2012a,b) and Vanrell & Fernández-Soriano (2013; V&FS) have shown that **neutrally focused elements can also remain in situ**.
- i.e. (1b) and (2b) are also possible for F (often the predominant choice)
  - (1) b. [<sub>F</sub>Los alumnos] se enfrentaron con la policía. in situ-marking
  - (2) b. Ficarem [<sub>F</sub>el ganivet] al calaix. in situ-marking

# Introduction

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In summary:

- These studies provide experimental evidence that when looking at non-standard varieties, the **distinction between word order and intonation focal typology can be too rigid**, since the “word order languages” Catalan and Spanish can use two different mechanisms, word order and intonation, to different degrees.

# Introduction

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## Present paper has two goals:

1. Experimental investigation of the manner in which prosody interacts with syntax in the expression of neutral and contrastive focus in Majorcan Catalan and Madrid Spanish
  - Data broadly **support the claims made by Vallduví** (1991, 1992) for Catalan **and Zubizarreta** (1998, 1999) for Spanish (=> contra other experimental studies)
  - It examines the **same varieties** (Eastern Catalan and Castilian Spanish) previously explored solely on the basis of linguistic intuition (Vallduví 1991, 1992 for Catalan and Zubizarreta 1998, 1999 for Spanish)
  - Additionally, important factors such as **focus type** or the **constituent under focus** are included in the design of the experiment
  - **First time** that these two typologically related languages, Catalan and Spanish, are carefully compared with respect to the syntax-prosody interface in a single study.

# Introduction

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2. In a second step, we propose a *stochastic optimality theoretic* (SOT, Boersma & Hayes 2001) approach to account for the syntactic and prosodic focus realizations in the two languages.
  - No (optimality) **theoretic model of focus** exists for Catalan
  - Various proposals are available for Spanish (e.g. Gutiérrez-Bravo 2002 or Gabriel 2010).  
**Shortcomings** of these approaches:
    - Difficulties in **accounting for the attested variation** (Gutiérrez-Bravo 2002)
    - Difficulties in **integrating all possible patterns** such as cleft-constructions (Gabriel 2010).

# Methodology

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- We elicited a total of
  - 1680 contours for Catalan (24 short stories x 10 questions x 7 speakers) and
  - 1056 contours for Spanish (24 short stories x 11 questions x 4 speakers).
- The task took approximately 50 minutes to complete.
- Zoom H4n digital audio recorder, AKG C520 condenser microphone (Sample rate 44,100 Hz, 16 bit amplitude resolution).
- The data were then annotated in *Praat* (Boersma and Weenkink 2013) according to the
  - orthographic transcription
  - syntactic strategy used by the speaker
  - syntactic order
  - focus type and focused constituent
- Prosodic transcription based on **Cat\_ToBI** and **Sp\_ToBI systems** (Prieto et al. in press-2014, Hualde and Prieto in press-2014).

# Results

- **Table 1:**  
Frequency of the variable SYNTACTIC STRATEGY in **neutral focus declaratives**.

	CAT	SPA
[ <sub>F</sub> S]	Neutral/Fronting 42% Clefting 34.6% Left-Dislocation 16%	Clefting 71.1% P-movement 14.5%
[ <sub>F</sub> O <sub>DO</sub> ]	Left-Disl. 36.5% Fronting 34.8% Right-Disl. 15.7%	P-movement 47.9% Clefting 23.3%
[ <sub>F</sub> O <sub>IO</sub> / adjunct]	Fronting 42.5% Neutral WO 14.4% Right-Disl. 13.2%	Neutral 43.6 % Clefting 21.3%

# Results

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Table 1 shows the frequency with which the variable SYNTACTIC STRATEGY was observed for Catalan and Spanish in **neutral focus declaratives**.

- Important distinction:
  - **Catalan** uses **dislocation** of the non-focused material or even **fronting** of the focused material, and
  - **Spanish** resorts to **p-movement and clefting**.

# Results

- **Table 2:**  
Frequency of the variable SYNTACTIC STRATEGY in **contrastive focus declaratives**.

	CAT	SPA
[ <sub>CF</sub> S]	Clefting 46.6% Left-Disl. 18.4% Right-Disl. 18.4%	Clefting 61.4% Fronting 15%
[ <sub>CF</sub> O <sub>DO</sub> ]	Clefting 29% Left-Disl. 23.7% Right-Disl. 22.5%	Clefting 61.8% Fronting 23.6% P-movement 15.7%
[ <sub>CF</sub> O <sub>IO</sub> /Adjunct]	Clefting 30.7% Fronting 20.3% Right-Disl. 19.3%	Clefting 41.2% Fronting 23.7% Neutral WO 14.4%

# Results

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Table 2 reports the observed frequency of the variable SYNTACTIC STRATEGY for Catalan and Spanish in **contrastive focus declaratives**.

- Both languages **primarily use cleft constructions** to express contrastive narrow focus on a given constituent.
- The languages differ, however, with respect to the following most common strategies:
  - **Left/right dislocation** seems to be a strategy restricted to **Catalan**, while
  - **P-movement** is restricted to **Spanish**.
- Focus fronting is used in both languages, but it is limited to  $O_{IO}$ /adjunct in Catalan.

# OT Analysis

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- *Stochastic Optimality Theory* (SOT, Boersma & Hayes 2001)
  - a version of the traditional Optimality Theory (Prince & Smolensky 1993/2004)
  - Traditional OT assumes grammars of individual languages to be a strictly ranked set of violable constraints  $C$  ( $C1 \gg C2 \gg C3$ ).
- SOT, in contrast, ranks the constraints along a continuous scale.
- As a result of this mechanism, **we are able to model the attested (frequency-dependent) differences in the realization of focus in Spanish and Catalan.**

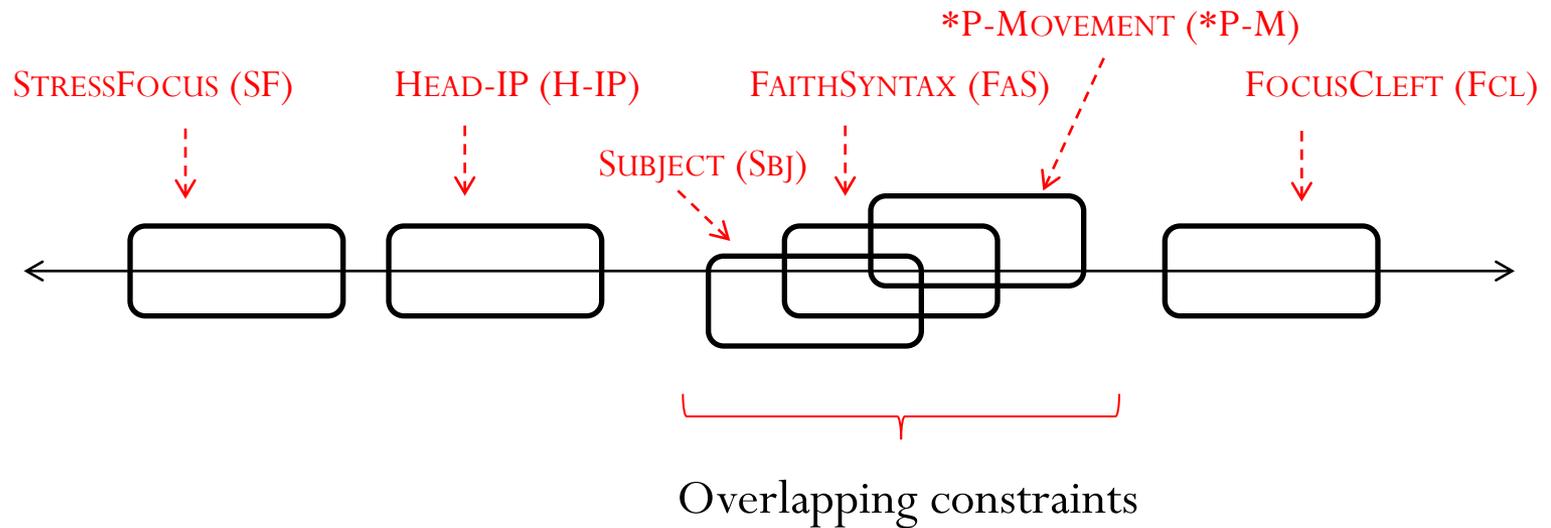
# OT Analysis

Our account relies on **six constraints**.

- a) **STRESSFOCUS (SF)** requires that the focus be realized with main stress (Truckenbrodt 1995).
- b) **HEAD-IP (H-IP)**, main stress occurs in the right-most position in its intonational phrase (Truckenbrodt 1995).
- c) **SUBJECT (SBJ)** requires that the highest A-specifier be filled by a subject (Grimshaw & Samek-Lodovici 1998); violated when Spec,TP is not filled by a subject.
- d) **FAITHSYNTAX (FAS)** requires that no syntactic material be added to the input (Destrueel 2013:208); violated when GEN introduces additional material (as in the case of clefts).
- e) **\*P-MOVEMENT (\*P-M)** militates against p-movement, i.e. against realizing material below C, T, and  $v$  that does not belong to the verbal chain C-T- $v$  (adapted from Gabriel's 2010 Stay- $\Phi$ ).
- f) **FOCUSLEFT (FCL)** requires a focus element to be clefted (Destrueel 2013:200). This constraint is not active in all-new / broad focus contexts, as more than one constituent is part of the focus domain.

# OT Analysis

- The underlying constraint hierarchy:



# OT Analysis

- Normal (upper table) and reverse ranking (lower table) for **neutrally focused subjects in Spanish**:

Subject = neutral focus	SF	H-IP	SBJ	FAS	*P-M	FCL
NORMAL WO María le da el libro a Juan.		*!				*
<b>P-MOV</b> Le da el libro a Juan María.			*!		*	*
<b>CLEFT</b> Es María la que le da el libro a J				*		
LD El libro, se lo da a Juan María.			*!	*		*
RD Se lo da a Juan María, el libro.			*!	*		*
Subject = neutral focus	SF	H-IP	FAS	SBJ	*P-M	FCL
NORMAL WO María le da el libro a Juan.		*!				*
<b>P-MOV</b> Le da el libro a Juan María.				*	*	*
<b>CLEFT</b> Es María la que le da el libro a J			*!			
LD El libro, se lo da a Juan María.			*	*!		*
RD Se lo da a Juan María, el libro.			*	*!		*

Table 3

# Discussion & Conclusion

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- Our data for Spanish **partially support Zubizarreta's** (1998) claims about p-movement to mark neutral focus in Spanish and focus fronting being restricted to a contrastive interpretation.
- Our results also diverge from those of Zubizarreta (1998):  
**Clefting** most common choice in the **contrastive focus condition**.  
**Clefting** also a common strategy in the **neutral focus condition**.
- Our results **contradict previous experimental studies** (e.g. Gabriel et al. (2009), Gabriel (2010), Hoot (2012a,b) and others) as a prosodic marking of focus in situ was realized only very rarely in Spanish.
  - One possible explanation could be that the other experimental studies concentrated on Latin American Spanish and not on Peninsular Spanish, as we did.
  - There may be an **important difference between the geographical varieties** (Prieto & Roseano 2010, Feldhausen et al. 2010, V&FS 2013).

# Discussion & Conclusion

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- **As for Catalan**, our results **strongly support the claim made by Vallduví (1992)**: dislocating non-focal material is a very important strategy in this language.
  - P-movement, in contrast, is almost non-existent.
- This finding contradicts claims made by Domínguez (2002), who argues that p-movement is also productive in Catalan.
  - One must bear in mind, however, that Domínguez (2002) investigated Valencian Catalan, among other varieties, and not Majorcan Catalan.
- This also suggests that **dialectal variation must be taken into account as a decisive factor involved in the variation of focus realization strategies** (cf. V&FS 2013).
- **Important differences** between Catalan and Spanish :
  - Dislocations are much more common in Catalan than in Spanish
  - P-movement representing a common strategy only in Spanish.

# Discussion & Conclusion

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- The proposed optimality theoretic approach is able to account for the variation attested in the data as well as for cleft constructions.
- The present approach also attempts to account for language-specific differences.
  - Its scope is limited to the differences between Spanish and Catalan:  
the constraints DISLOCATEGIVEN and \*P-MOV are ranked high in Catalan, while they are low or inactive in Spanish.

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Gràcies!