

**Context or contour? Perceived  
speaker belief state in Puerto Rican  
Spanish yes-no questions**

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# Introduction

- Intonation contours differ based on meaning and context
- Some contours carry more information than others - contours may mark an utterance for interrogativity only, but a contour can also mark for questionhood + other types of information (Escandell, 1998)

# “Other” types of information intonationally encoded

- “Attributed interrogatives” - encode a representation of a thought of a speaker that is the interpretation of the thought of another individual (Escandell-Vidal, 1998 for falling versus rising questions in Peninsular Spanish)
- Information status, speaker attitude, degree of certainty (Payà & Vanrell 2005 for pitch accent and boundary tone choice in Majorcan and Minorcan Catalan)
- Types of confirmation – confirmation of understanding vs. confirmation of perception (Santos & Mata 2008 for pitch accent choice in European Portuguese)

# Types of contours

- Escandell-Vidal (1998): fall-rise in Peninsular Spanish is default contour for marking interrogatives – can work in all contexts, while rise-fall does not work in all contexts
- Gunlogson (2003): when “default” question intonation is used in a biased context, its meaning preserves the bias

# Types of Bias

- Contextual Bias condition – if hearer is publicly committed to a proposition or a proposition can be inferred based on hearer's position – contextual bias is met – this condition is crucial for the interpretation of declaratives as questions in American English (Gunlogson, 2003)
- Bias in questions may also arise from **contextual evidence** (evidence that has just become available in the context)

# Types of Bias

- Sudo (2010) groups the following types of modality into a general category of bias that he proposes in addition to evidential bias
- **Epistemic** (speaker thinks  $p$  is likely)
- **Bouletic** (speaker expects  $p$ )
- **Deontic** (speaker thinks  $p$  should be the case)

# Puerto Rican Spanish

- Categories useful to describe contours found in PRS based on results of two Discourse Completion Tests
- Results indicated three main contours which follow restrictions based on contextual bias and epistemic bias

# Generalizations based on production work

- $\uparrow H^* L\%$  - default marker of interrogatives in PRS, works in all contexts, if produced in a biased context then the neutrality is lost and the bias of the context is preserved
- $H+L^* L\%$  - marked for questionhood + positive epistemic bias, should be infelicitous in a context with evidence for  $\sim p$ , and also in +positive context
- $L^* HL\%$  - must have evidence for  $p$ ,  $\sim p$  must be revealed at time of utterance, encodes three layers of information: question, information about speaker belief prior to the revelation of  $p$  (speaker believed that  $\sim p$ ) and information about present state of evaluation of  $p$  (has not yet accepted  $p$ )



# Hypothesis for PRS Question domain

Contour	Meaning	Behavior
iH* L% (Contour 1)	Default contour – preferred meaning is neutral	“default” question-marking contour, preserves contextual bias
H+L* L% (Contour 2)	Positive epistemic bias	Preserves positive epistemic bias regardless of context
L* HL% Contour 3)	Negative epistemic bias	Preserves negative epistemic bias regardless of context

# Perception study

- Question: How do contour and context affect speakers' perception of positive or negative epistemic bias?
- Do the belief marked contours (Contours 2 & 3) in fact preserve their meaning better than the neutral contour (Contour 1)?

# Perception study - methods

- Loosely based on Gravano et al. (2008)
- Participants – speakers of PRS that had not spent significant time outside of PR and still lived on the island (12)
- Online questionnaire format – [surveygizmo.com](http://surveygizmo.com)
- 6 contexts controlled for epistemic and contextual bias
- 3 contours
- 2 speakers
- $6 \times 3 \times 2 = 36$  trials x 12 speakers (n=432)

# Context 1 – PK 0, CE 0

- **Contexto:** *José y Enrique se acaban de conocer en su vuelo que va a Nueva York. Están hablando de los alquileres en NYC.*

Enrique: Hoy día, hasta en el Bronx pagas un montón.

José: Es verdad.

Enrique: Sí..es así por todos lados.

José: Tienes razón...**¿Tú vives en la isla?** 🗣️

## Context 2 – PK 0, CE 1 – linguistically activated

Ramón: ¡Hola! ¡Llegaste temprano!

Eduardo: Sí, hoy la jefa me dejó salir a las 4. Tú también llegaste temprano.

Ramón: Sí, es que me llamó el plomero para decirme que lo esperara.

Eduardo: **¿Viene el plomero?** 🗣️

## Context 3 – PK 0 CE 1, extra-linguistically activated

**Contexto:** *Raúl y Ernesto están en la playa hablando.*

Raúl: Oye, mano, el día sí que está bien.

Ernesto: Sí, ¿verdad? Ojalá pudiera hacer esto todos los días.

Raúl: Sí... yo dejaría mi trabajo...

Ernesto: (Viendo que Raúl está sacando dinero y viene el vendedor de helado) **¿Tú vas a comprar helado?** 🗣️

## Context 4 - PK 1, CE 0

**Contexto:** *Claudio le había mencionado a Daniel unas cuantas veces que tiene una cita con el médico el viernes.*

Claudio: ¿Jugamos baloncesto esta semana?

Daniel: Sí, sí. ¿Qué día te conviene?

Claudio: Escoge tú...

Daniel: A ver... **¿tú tienes cita médica el viernes?** 

# Context 5 – PK 1, CE 1 (PK is congruent with CE)

**Contexto:** *Carlos y Jorge son compañeros de casa. Carlos sabe que Jorge normalmente duerme hasta la 1 o las dos todos los domingos. Un domingo a la 1:30, Jorge sale de su cuarto y empieza a hablar con Carlos*

Jorge: Hola Carlos, ¿qué hay?

Carlos: Na, aquí, cogiéndolo suave....

Jorge: ¿Qué has hecho hoy?

Carlos: Fui al gimnasio, hice compra, y tú... (mirando la cara de sueño de Jorge): **¿Acabas de despertarte?**





## Context 6 – PK 1, CE 1 (PK is not congruent with CE)

**Contexto:** *Óscar sabe que su esposa, Mari, no soporta los perros.*

Mari: He estado pensando en lo que me vas a regalar de Navidad...

Óscar: Hmm... y ¿ya se te ocurrió algo?

Mari: Pues había pensado que a lo mejor un perrito...

Óscar: **¿Quieres un perro?** 



# Design

**128. Haz clic aquí si la entonación NO tiene sentido en este contexto.**

La entonación NO tiene sentido en este contexto.

**129. Comentarios (opcional)**

# Perception study - results

- Two linear regression models were fit in R to examine the effect of contour and context (dep. variable = score, independent = contour, context)
- Likelihood-ratio test revealed that the interaction between context and contour was significant ( $p=0.000014$ )

# Frequency of contours by context (%)

Fig. 1 PK 0, CE 0

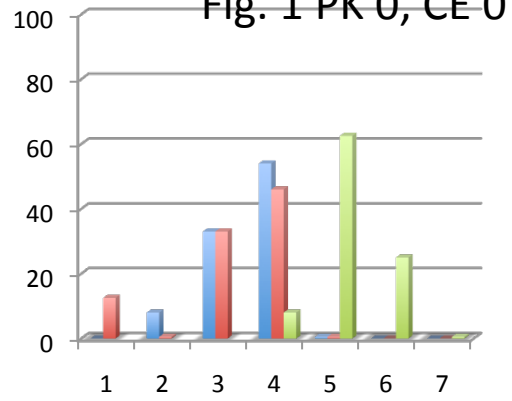


Fig. 2 PK 0, CE 1 - linguistic

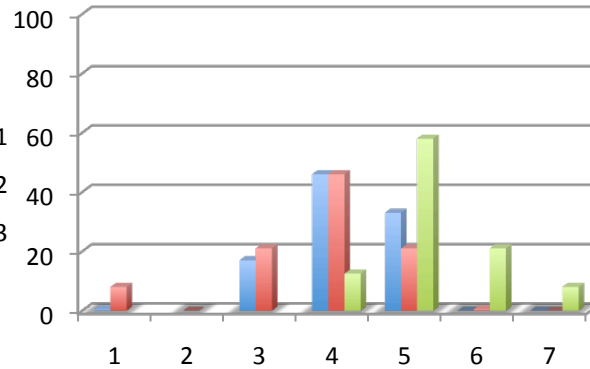


Fig. 3 PK 0, CE 1 - extra-linguistic

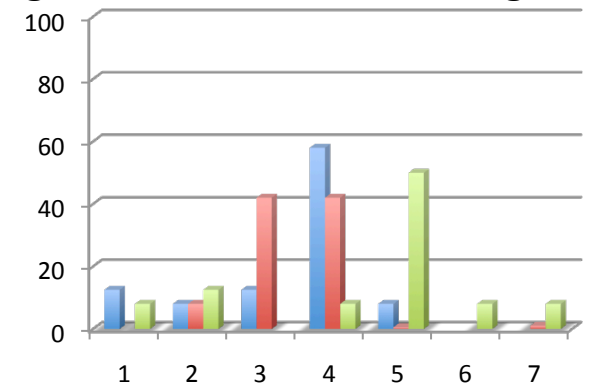


Fig. 4 PK 1, CE 0

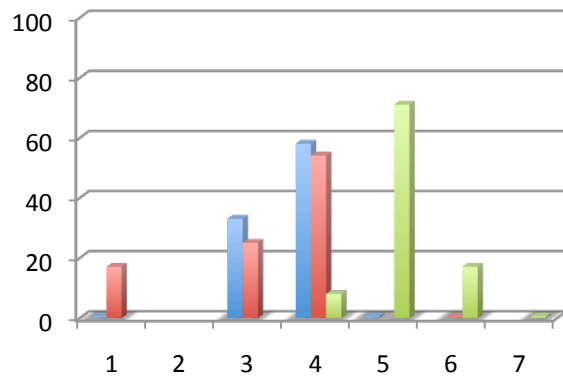


Fig. 5 PK 1, CE 1 - congruent

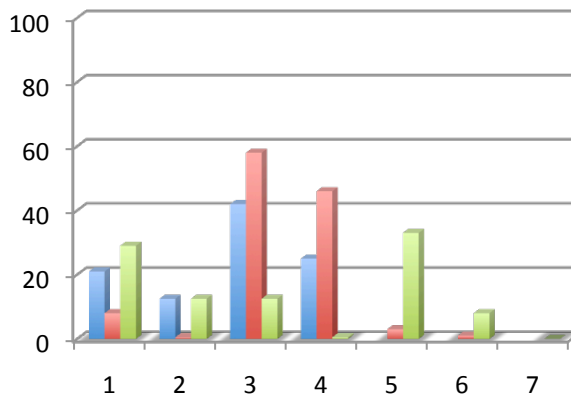
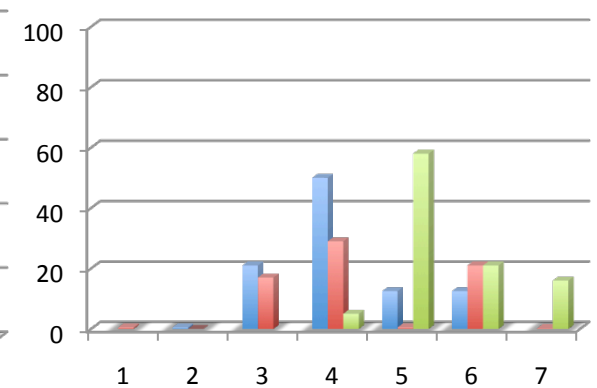


Fig. 6 PK 1, CE 1 - incongruent



# Positive vs. Neutral vs. Negative

Table 1. Grouped means for contour/context combinations

	1	2	3
PK 0, CE 0	-0.375	-0.458	0.917
PK 0, CE 0 L	0.125	-0.042	0.875
PK 0, CE 0 EL	-0.250	0.417	0.583
PK 1, CE 0	-0.333	0.375	0.917
PK 1, CE 1 C	-0.750	-0.208	-0.125
PK 1, CE 1 I	0.000	0.292	0.958

Grouped Likert Scores:

1, 2 or 3 = -1

4 = 0

5, 6, 7 = +1

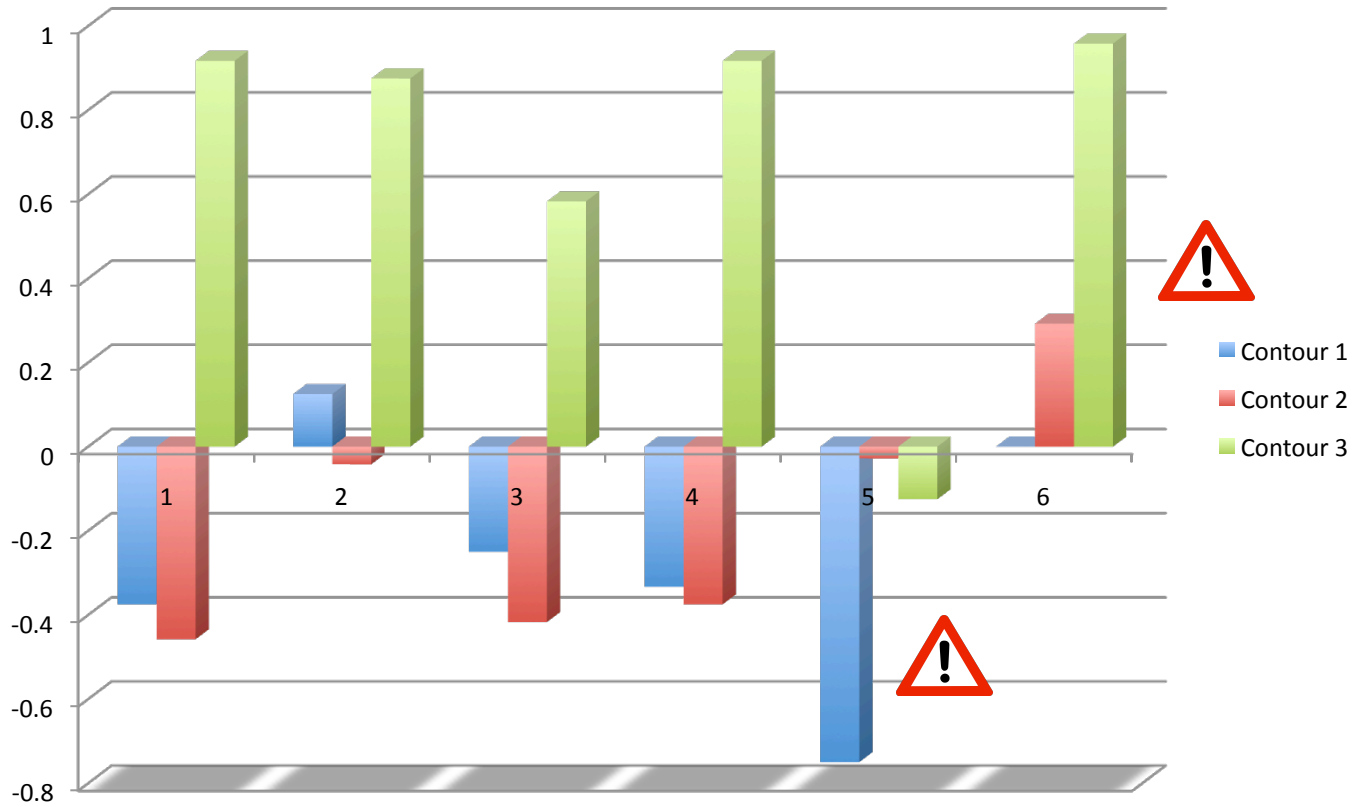
Initial hypotheses:

1= neutral but preserves contextual bias

2=+positive epistemic bias, preserves encoded meaning

3=+negative epistemic bias, preserves encoded meaning

Fig. 7 Grouped means of context/contour combinations



# Discussion

- Clear effect of the interaction between contour and context
- Contour 1 indeed seems to preserve contextual bias – shows the most flexibility for moving in different directions on the scale and **never** judged as infelicitous
- Contour 2 – tends to preserve contextual bias but in some cases judged as expressing doubt – role of negation may be key (Sosa, 1999)



# Discussion

- Contour 3 consistently preserves meaning – participants constructed interpretations to accommodate meaning (i.e. irony, hearer doing something they shouldn't be doing) – epistemic bias clearly encoded in contour and resists contextual bias

# Conclusions

- Not all contours interact with context the same way
- The amount and type of information encoded in the contour affects its interaction with context (Contour 1 is only marked for questions, Contour 3 carries information at three levels)
- Gives insight to pragmatic division of labor of contours – i.e. what they can and cannot do in context
- Allowing for felicity judgments and qualitative evidence make restrictions clear
- Fine grained investigations useful for exploring categorical differences in intonational phonology as well as understanding better the definition of “intonational meaning”

Gràcies!