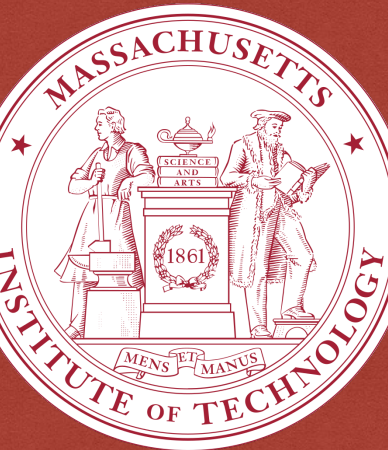


Prosodic evidence for syntax in biased questions in Mandarin

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Overview

Novel prosodic evidence for biased questions:

- Across languages, biased questions fall into two main types – positive biased questions and negative biased questions
- In the literature, these two types were largely disambiguated by contexts
- We provide novel syntactic and prosodic diagnostics that disambiguate them in Mandarin Chinese, adding to a small literature on the prosody of biased questions (e.g. Ito & Oshima 2016)

Implications:

- Prosody (in particular tone sandhi) can provide evidence for syntactic structure

Bu sandhi

Bu sandhi: /bu4/ ‘not’ → [bu2] / __ tone4

- (1) a. **bu4** hao3 ‘not good’ b. **bu2** huai4 ‘not bad’

Two types of biased questions:

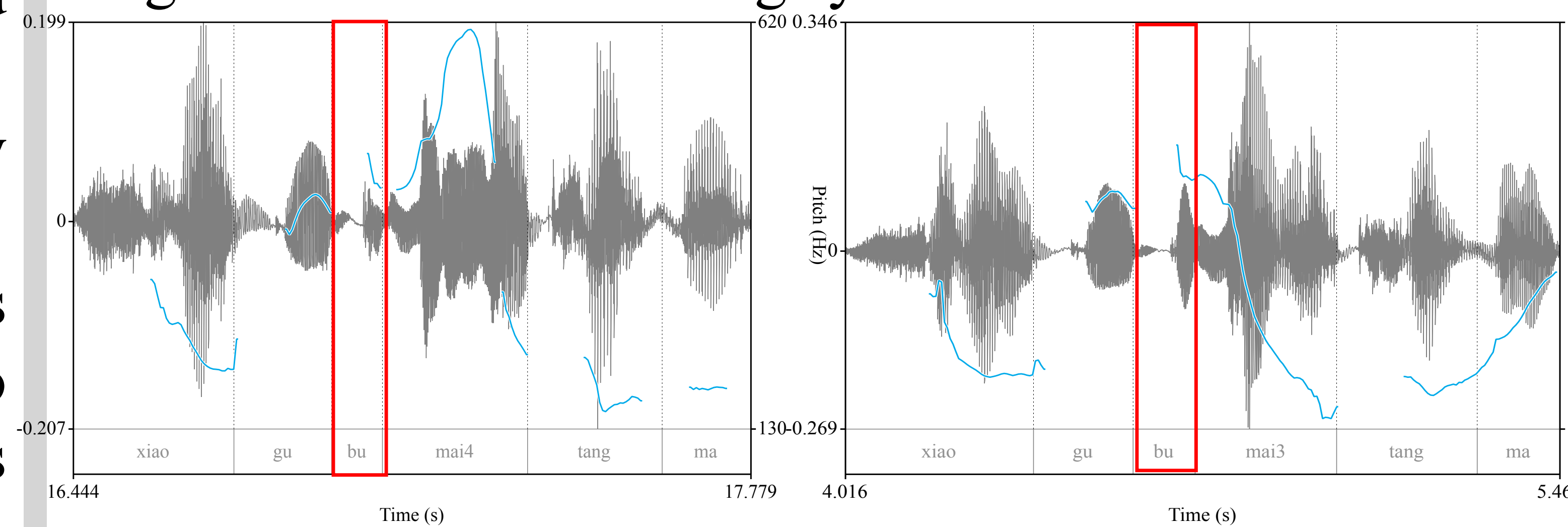
- Biased questions = negative yes/no questions
- Two types of biased questions depending on the scope of negation
- Positive biased questions (PBQ): the speaker seeks confirmation for a proposition containing no negation
- Negative biased questions (NBQ): the speaker seeks confirmation for a proposition containing negation

There is always *bu* sandhi in NBQ, but not in PBQ

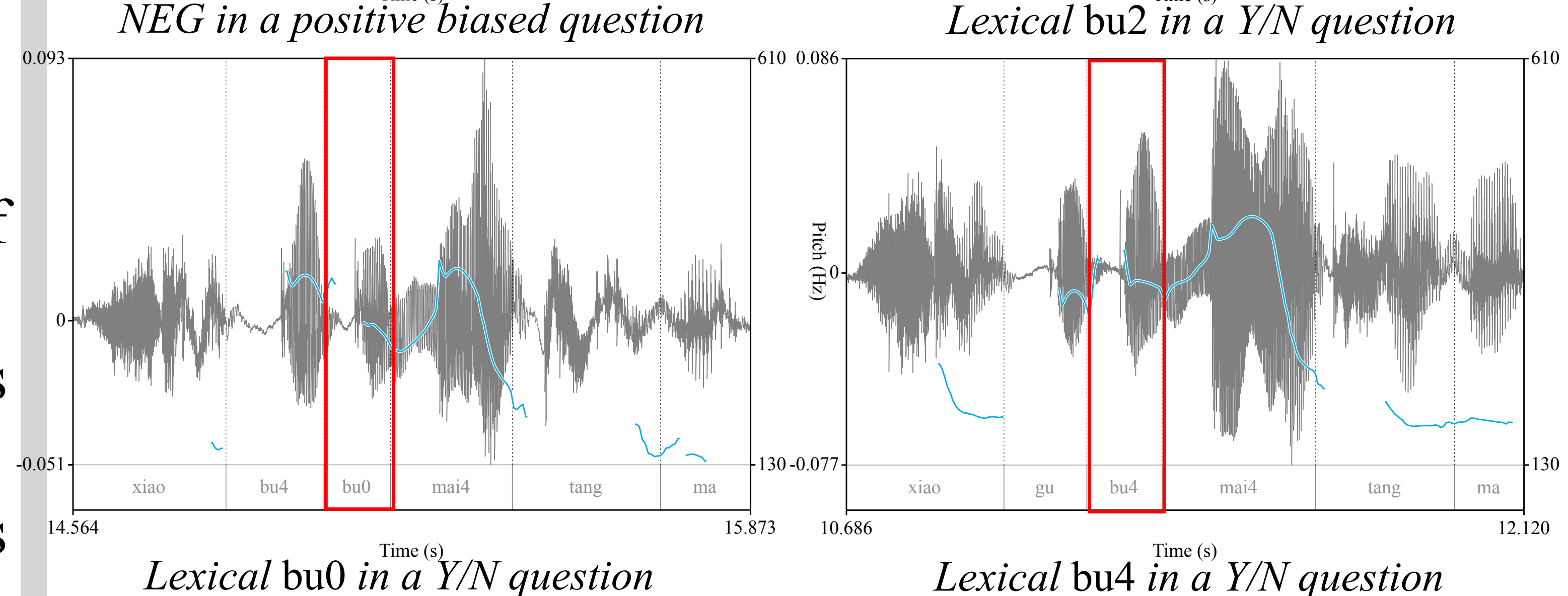
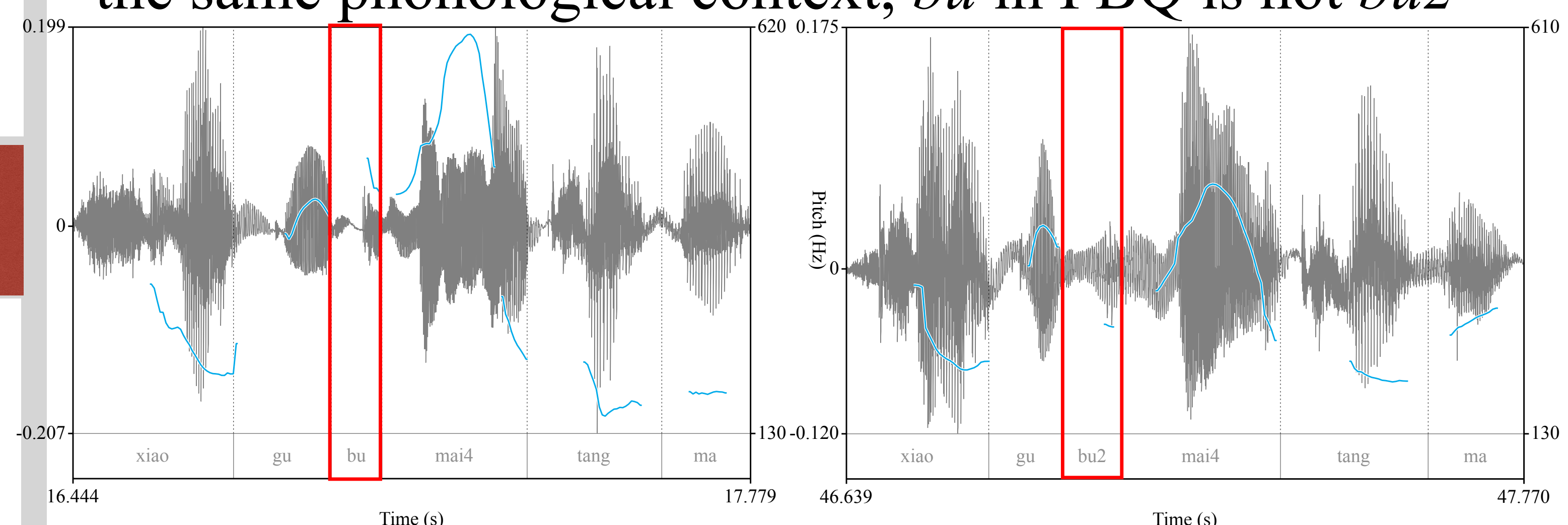
- (2) Xiaogu {**bu0/bu2**} mai4 tang ma?
Xiaogu NEG sell candies Q
Positive bias: ‘Doesn’t Xiaogu sell candies?’ **bu0**
Negative bias: ‘Does Xiaogu not sell candies?’ **bu2**

Prosodic evidence

- Production study with 5 speakers
- There can be no *bu* sandhi in PBQ: *bu* has the same tone, regardless of the following syllable



- Comparing *bu* in PBQ with lexical *bu0*, *bu2* and *bu4* in the same phonological context, *bu* in PBQ is not *bu2*



Analysis

- *Bu* is followed by a larger prosodic boundary in PBQ than in NBQ
- *Bu* sandhi is less likely to occur across large prosodic boundaries, and thus less likely to occur in PBQ
- The prosodic difference reflects a difference in syntactic structure: *bu* is followed by a TP boundary in PBQ, but *bu* is in the same TP as the following material in NBQ.
- The proposition to be confirmed is the TP (Romero & Han 2004, Holmberg 2012, Krifka 2017).

Syntactic analysis

- Negation in PBQ is above TP, but negation in NBQ is inside TP
- The subject in PBQ precedes negation because it has moved to a topic position (3a).
- The subject in NBQ may also be topicalized (3b), but it is not required by our analysis.

- (3) a. [Q [_{TopP} he_i Neg [_{TP} t_i sells candies]]] *Positive Bias*
b. [Q [_{TopP} XG_i [_{TP} t_i Neg sells candies]]] *Negative B.*

Syntactic evidence 1

High adverbs occur below negation in PBQ, but above negation in NBQ

- (4) ta {√**bu0**/***bu2**} xing4kui mai4 kouzhao ma?
he NEG fortunately sell mask Q
Positive bias: ‘Doesn’t he sell masks, fortunately?’
(5) ta xing4kui {***bu0**/√**bu2**} mai4 kouzhao ma?
he fortunately NEG sell mask Q
Negative bias: ‘Is it true that fortunately, he doesn’t sell masks?’

Syntactic evidence 2

Negation in PBQ cannot license NPI, but negation in NBQ can

- (6) ta {***bu0**/√**bu2**} mai4 renhe kouzhao ma?
he NEG sell any mask Q
Negative bias: ‘Does he not sell any mask?’

Syntactic evidence 3

The two negations can co-occur, leading to NB reading

- (7) ta **bu0** **bu2** mai4 kouzhao ma?
he NEG NEG sell mask Q
Negative bias: ‘Does he not sell masks?’