

Which stress is on PRPs?

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Abstract

This paper is an empirical study investigating on the prosodic patterns of polar response particles (PRPs) in Farsi, where PRPs are ambiguous in response to negative questions. I present novel data showing that while negative answers to positive questions lack prosodic stress (in line with data from [Goodhue and Wagner 2018](#)), such responses bear stress when the question obligatorily implicates bias. I claim that two types of stress are used on PRPs in order to either disambiguate the reading in contrast to the alternatives or to express the conflict between what is believed by the speaker (the bias implicature) and the addressee (the answer proposition). I propose that the semantics-pragmatics of each stress can explain the data.

1 Introduction

Polar response particles (PRPs) have been the subject of variety of studies in semantics and pragmatics ([Krifka 2013](#), [Roelofsen and Farkas 2015](#) among others), specially when they are ambiguous between two readings: *polarity*-reading, which marks a response as being either positive or negative (superscripted as ^{Pos/Neg}) and *(dis)agreement*-reading, which expresses agreement or disagreement with an antecedent (superscripted as ^{Agr/DAgr}). The ambiguity occurs in languages, like Farsi, in which the same particles can be used in both readings, in the sense that *âre* ‘Yes’ and *na* ‘No’ with either of their readings generate the same proposition in response to positive questions (1), however, they result in two different propositions in response to negative questions (2).

- (1) A: Ali mehmuni raft?
Ali party went
‘Did Ali go to the party?’
B1: *âre*^{Pos/Agr}. meaning ‘he did.’
B2: # *âre*^{Pos/Agr}. meaning ‘he didn’t.’
B3: # *na*^{Neg/DAgr}. meaning ‘he did.’
B4: *na*^{Neg/DAgr}. meaning ‘he didn’t.’

- (2) A: Ali mehmuni na-raft?
Ali party NEG-went
‘Did Ali not go to the party?’
B1: *âre*^{Pos}. meaning ‘he did.’
B2: *âre*^{Agr}. meaning ‘he didn’t.’
B3: *na*^{DAgr}. meaning ‘he did.’
B4: *na*^{Neg}. meaning ‘he didn’t.’

On the other hand, prosodic stress, mentioned as *rejecting accent*, *verum focus* or *contradiction contour* in different studies (see [Goodhue and Wagner 2018](#)), is frequently prescribed for positive answers to negative questions (2.B1, B3), which leads properly to opposition answers and disambiguates the reading. Although (in some languages like Farsi) *verum* accent and contrastive focus (CF) are prosodically homophones, they are semantically different ([Romero and Han 2004](#), [Bill and Koev 2021](#)). The experimental work presented here provides an investigation into how the semantics of prosodic stress, i.e. *verum* focus and CF separately, can describe the presence/absence of stress on PRPs in response to positive and negative polar questions (PPQs and NPQs respectively).

2 Experimental data

Two experiments were conducted to find the prosodic patterns of PRPs in affirmation and opposition answers. In Experiment 1, I used PPQs (1) and NPQs (2), while in Experiment 2, I considered bias as in (3) and (4), in which a biased particle *dige* obligatorily expresses speaker’s expectation towards the uttered proposition in the question:

- (3) Ali mehmuni raft dige?
Ali party went DIGE
‘Did Ali go to the party?’
↪ The speaker expects that Ali went.
- (4) Ali mehmuni na-raft dige?
Ali party NEG-went DIGE
‘Did Ali not go to the party?’
↪ The speaker expects that Ali didn’t go.

The data were recorded from 36 Farsi native speakers, reading 18 stimuli. Fifteen data points of f0 trajectory from each particle were automatically extracted (in PRAAT). The pitch track of PRPs are illustrated by GAMMs (from 8370 measurement points in each experiment). In response to PPQs and NPQs, the result of Exp. 1 indicates prosodic saliency as a significant difference in f0 magnitude excursion 26Hz (179-205Hz) on both particles in oppositions, as compared to affirmations 9Hz (184-193Hz). However, considering question polarity (Fig. 1), the data doesn't show significant saliency in PPQs, where PRPs in both oppositions and affirmations have almost 10Hz rising, while in NPQs the f0 excursion in affirmations and oppositions are largely different, 8Hz and 35Hz respectively.

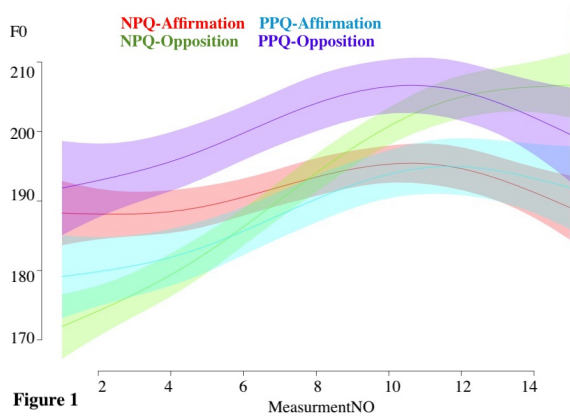


Figure 1

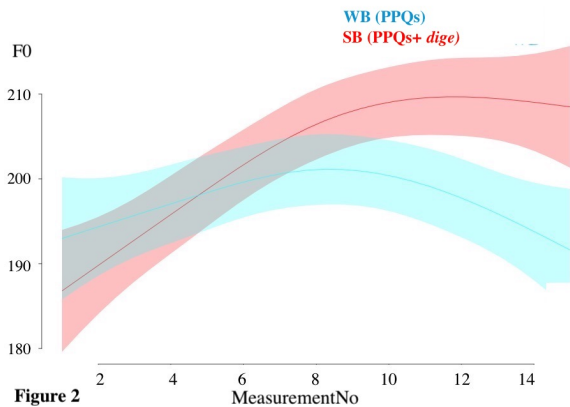


Figure 2

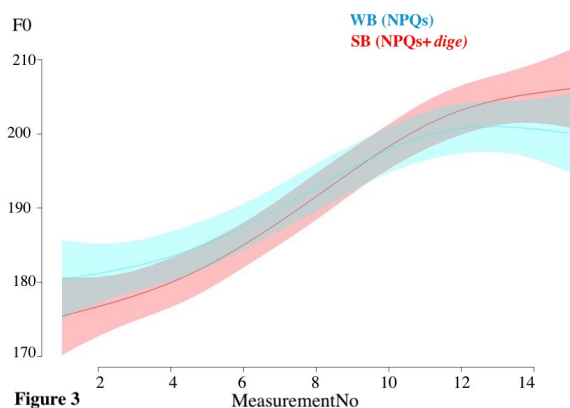


Figure 3

Experiment 2 investigates in opposition answers to strongly biased (SB) questions, where bias was obligatorily expressed by *dige*, as well as to simple questions, where one can accommodate bias weakly (WB). Interestingly, the polarity of the questions did not affect the prosodic saliency of oppositions in response to SB PPQs and SB NPQs. Whilst Figure 3 shows a slight difference in NPQs with respect to the bias strength (f0 magnitude excursion WB=21Hz (180-201Hz) and SB=30Hz (175-205Hz)), there is a significant difference between SB and WB forms of PPQs (f0 magnitude excursion WB=7Hz (193-200Hz) and SB=22Hz (187-209Hz)) as in Figure 2. The data indicates bias affects the prosody.

3 Discussion

I propose that the prosodic stress on PRPs in response to WB and SB questions are different types with different jobs. That is the stress on PRPs in response to WB NPQs is CF, which triggers a set of alternatives of the same particle with different readings (following Rooth 1992), where the set of alternatives in CF contains various possible replacements in the similar domain of the focused expression). Note that in my analysis, PRPs are lexically ambiguous, thus, e.g. for $[na]_F$ we have a set of $\{na^{Neg}, na^{DAgr}\}$, that generates $\{p, \neg p\}$. Hence, the opposition answer is derived via the compositional semantics of CF (à la Rooth) in order to disambiguate the reading. Besides, in response to PPQs the suggested set with either of the readings of *na*, equates a singleton set, $\{\neg p\}$, which contrasts with nothing and predicts truly the absence of CF (in line with data in Exp. 1). In turn, with a set of $\{\hat{a}re, na\}$, one would expect CF in oppositions to PPQs too, which was absent in our data.

On the other hand, *verum focus*, as the overt realization of VERUM epistemic operator, presupposes the existence of conflicting evidence about the prejacent (Romero and Han 2004, Bill and Koev 2021). In SB questions (both NPQs/PPQs), the bias implicature in the question conflicts with the addressee's belief (the opposition answer), which licenses *verum* accent on PRPs. Note that the bias in SB is necessarily there and cannot be canceled, while it is optional and cancelable in WB forms. Therefore, the (higher) stress on oppositions to SB NPQs and PPQs is *verum focus*, indicating the conflict, while CF on oppositions to WB NPQs disambiguates the answer.

References

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