

# Systematizing Fine-Grained Judgment Differences: Wh-Scrambling and Information Structure in Persian

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This paper presents a study of *wh*-scrambling in Persian showing that information structure plays an important role. Focus properties as well as structural preferences, due to a requirement of presuppositional adequacy, are in the center of our analysis. We use an experimental approach, working with a gradient grammaticality judgment test, based on the principle of graphic rating. Subjects express nuanced judgments by the length of a line drawn on a bipolar, anchored scale. The statistical analysis is based on a sample of 98 native speakers collected during fieldwork in Tehran.

In a first step we analyzed simple *wh*-questions, (1a) to (3c), distinguishing between (i) non-initial/preverbal vs. initial vs. postverbal *wh*-positions, (ii) *wh*-adjuncts vs. *wh*-NPs, and (iii) canonical vs. postposed subjects. The results show that scrambling of *wh*-elements and non-*wh*-elements have exactly the same impact on grammaticality, supporting the assumption of the general scrambling approach proposed by Karimi (2005). Furthermore, we find a general preference of *wh*-adjuncts over *wh*-arguments, explained by their different semantics in terms of Reinhart's (1998) choice functions.

In a second step, we turned to complex *wh*-questions, (4a) and (4b), as well as to long NP-scrambling, (5). The grammaticality degrees between simple and complex *wh*-questions is identical, i.e. there is not a general and simple correlation with complexity in terms of number of CPs. However, we find an interesting preference for long *wh*-scrambling compared to long NP-scrambling, which reveals the relevance of the target landing position in cyclic movement: Long scrambling preferably targets the matrix CP compared to an intermediate CP. We argue that most of the observed differences can be traced back to a general principle of *presuppositional adequacy*, which is inspired by Comorovski's (1996: 146) answerability condition.

Finally, we tested multiple *wh*-questions, (6a) to (7b), with different linear orders of *wh*-subjects and *wh*-objects, and with or without the suffix *-ra* marking specific direct objects. Although we find a preference for the subject-before-object order, it is only an apparent superiority effect. The quantitative results show that this difference can be fully explained by the principle of presuppositional adequacy. This case illustrates the analytical benefits of empirical grammaticality judgments that also allow synergetical understanding of grammatical principles governing different phenomena. The necessity of the object marker in the object-before-subject order is explained by the semantic requirements of the left periphery: NPs in FocP must have a unique referent.

On a conceptual level, we account for nuanced but systematic differences within the range of felicitous constructions by postulating the notion of *preference constraint* as an enrichment of the formal-syntactic apparatus.

## Examples

- |       |                                |                           |
|-------|--------------------------------|---------------------------|
| (1a)  | sara ketab -ej -o kej xæride?  | [S O Adj <sub>wh</sub> V] |
|       | Sara book -her -OM when bought |                           |
|       | 'When did Sara buy her book?'  |                           |
| (1a') | sara kej ketab -ej -o xæride?  | [S Adj <sub>wh</sub> O V] |
|       | Sara when book -her -OM bought |                           |
| (1b)  | ketab -ej -o kej xæride sara?  | [O Adj <sub>wh</sub> V S] |
|       | book -her -OM when bought Sara |                           |

- (1c) babæk ki -jo emruz zæde? [S O<sub>wh</sub> Adj V]  
 Babak who -OM today hit
- (1c') babæk emruz ki -jo zæde? [S Adj O<sub>wh</sub> V]  
 Babak today who -OM hit  
 'Who has Babak hit today?'
- (2a) kej sara ketab -ej -o xæride? [Adj<sub>wh</sub> S O V]  
 when Sara book -her -OM bought
- (2b) kej ketab -ej -o xæride sara? [Adj<sub>wh</sub> O V S]  
 when book -her -OM bought Sara
- (2c) ki -jo babæk emruz zæde? [O<sub>wh</sub> S Adj V]  
 who -OM Babak today hit
- (3a) \* sara ketab -ej -o xæride kej? [S O V Adj<sub>wh</sub>]  
 Sara book -her -OM bought when
- (3b) \* xæride kej ketab -ej -o sara? [V Adj<sub>wh</sub> O S]  
 bought when book -her -OM Sara
- (3c) \* babæk emruz zæde ki -jo? [S Adj V O<sub>wh</sub>]  
 Babak today hit who -OM
- (4a) fekr-mikon -i ke babæk emruz ki -jo zæde?  
 think -you that Babak today who -OM hit
- (4b) [ki -jo]<sub>i</sub> fekr-mikon -i ke babæk emruz t zæde?  
 who -OM think -you that Babak today hit
- (5) šiva goft [ke [otay -o]<sub>i</sub> hæds mizæne [ke nærges t tæmiz kærde bofe ]].  
 Shiva said that room -OM guesses<sub>3rd.sg.</sub> that Narges cleaned had  
 Shiva said that she guessed that Narges had cleaned the room.
- (6a) ki tʃi xord?  
 who what ate
- (6b) \* tʃi ki xord?  
 what who ate
- (7a) ki tʃi -jo xord?  
 who what-OM ate
- (7b) ? tʃi -jo ki xord?  
 what-OM who ate

## References

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