This paper presents the results of a study on the binding properties of alternative evaluating operators in Palestinian Arabic (PA). New data on intervention effects in PA are used to argue that the $\sim$-operator, responsible for association with focus (Rooth 1992), evaluates all foci in its scope unselectively, while the $Q$-operator, responsible for generating question sets (Beck 2006, Cable 2007) selectively associates with only certain alternative-introducing items in its scope. These results are significant because they support similar findings in other languages, including English and German (cf. Beck 2006). The results thus point towards a universal theory of the binding properties of $Q$ and the $\sim$ and not, as predicted by current theories (Wold, Kratzer, Beck), towards possible cross-linguistic variation of the operators.

**Theoretical Background**

Intervention effects are instances of ungrammaticality due to insertion of an alternative-sensitive operator between another alternative-sensitive operator and the focus/wh-item it evaluates. An intervention configuration, where a wh-phrase (or a disjunctive phrase in the case of alternative questions) is bound by $Q$-operator across a squiggle operator or negation, can be seen below in (1), a focus evaluation out of an embedded question can be seen in (2):

\[
(1) \ast [Q_i \ldots \sim C \ldots [\ldots wh_i \ldots ] \ldots ] \quad (2) [\sim C \ldots [Q[\ldots wh\ldots F\ldots]]]
\]

Interestingly, these effects have been shown to occur in a lot of other languages like English, German, Korean, Japanese, Russian, Turkish, Samoan, Yoruba and Hindi (cf. Beck & Kim, 2006; cf. Beck, 1996; Project C1 SFB 833, unpublished work). A valid explanation of the ungrammaticality of (1) is to assume the binding properties of $Q$ and $\sim$ to cause the ungrammaticality (Beck 2006). The way to empirically find out those binding properties is to elicit intervention effects as well as focus evaluation out of a question. The semantic analyses are done in a distinguished variable framework, which according to Beck (2006, 2016) is necessary to capture the interaction between focus and questions. Every node in the tree receives an extra value relative to the assignment function $h$. The contribution of focus is given in (3), the lexical entry of the unselective squiggle is given in (4), the lexical entry for $Q$ is given in (5), and the entry for 'only' in (6). Under this theory, the alternative evaluating operators $\sim$ and $Q$ bind the distinguished variables introduced by focus and the wh-phrase, to create alternative sets used by focus-sensitive operators, as (6).

<table>
<thead>
<tr>
<th>Focus:</th>
<th>$\sim$ operator (unselective):</th>
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<tbody>
<tr>
<td>If $\alpha = \beta_{F_i}$, then for any $g,h$:</td>
<td>If $\alpha = [\sim C\beta]$, then for any $g,h$:</td>
</tr>
<tr>
<td>$[\alpha]^g = [[\beta]^g$</td>
<td>$[\alpha]^g$ is only defined if</td>
</tr>
<tr>
<td>$[\alpha]_{g,h}^h = h(i)$ if $i$ is in the domain of $h$,</td>
<td>$g(C) \subseteq {[[\beta]_{g,h}^g</td>
</tr>
<tr>
<td>$[\alpha]_{g,h}^g$ otherwise</td>
<td>Then, $[\alpha]^g = [[\beta]^g$</td>
</tr>
<tr>
<td></td>
<td>$[\alpha]<em>{g,h}^g = [[\beta]</em>{g,h}^g \frac{1}{\lambda}$</td>
</tr>
</tbody>
</table>

**question operator $Q$ (selective):**

| If $\alpha = [Q_i\beta]$, then for any $g,h$: | [only]$^g = $ |
| \[
[\alpha]^g = \{[[\beta]_{g,\theta[x/i]} | x \in D\} \frac{1}{\lambda$ |
| $[\alpha]_{g,h} = \{[[\beta]_{g,h,x/i]} | x \in D\}$ | $\lambda C_{<s,t>,\lambda} p_{<s,t>,\lambda} w. p(w) = 1. \forall q$ |
| \[
[q \in C \& q \neq p \rightarrow q(w) = 0]$ |

**Elicitation and Data**

With my data, I give further evidence for a universal theory of the binding properties of $Q$ and $\sim$. PA has been an understudied language in formal semantics. I have not only been able to elicit intervention effects in PA, but also to contribute to a universal theory of an unselective $\sim$ and a selective $Q$. As discussed in Beck & Kim (2006), intervention effects can
occur in alternative questions, namely when an intervener like ‘only’ prevents association of the disjunctive phrase with \(Q\), which is shown in the LF of (8a) in (7).

(7)_{AltQ}: *[\[Q \sim C \text{ did only } \text{maHmuud}_F \text{ eat maqlubi or drink tea}]]

In (7), only the PolQ reading remains available and the AltQ reading is blocked by the intervener. In PA, there are two distinct particles for ‘or’; one for AltQs and one for PolQs. (8a) shows an intervention effect in PA that arises because the AltQ particle ‘walla’ is combined with an intervention configuration. (8a) should be grammatical if selective association of \(\sim\) were grammatical in PA.

(8) \text{ intervention in AltQ with ‘bas’ as intervener}

a. *bas maHmuud ‘akal maqluubi walla shirib shaay?
   only Mahmud ate(3.Ps.Sg.MASC) maqlubi or drank(3.Ps.Sg.MASC) tea?
   ‘Did only Mahmud eat maqlubi or drink tea?’
   \text{no intervention in AltQ}

b. ‘akal maHmuud maqluubi walla shirib shaay?
   ate(3.Ps.Sg.MASC) Mahmud maqlubi or drank(3.Ps.Sg.MASC) tea?
   ‘Did Mahmud eat maqlubi or drink tea?’
   \text{no intervention in PolQ with ‘bas’}

c. bas maHmuud ‘akal maqluubi?
   only Mahmud ate(3.Ps.Sg.MASC) maqlubi?
   ‘Did only Mahmud eat maqlubi?’

The ungrammaticality of (8a) provides evidence of an unselective \(\sim\). As the configuration in (1) predicts, the disjunctive phrase cannot be bound by \(Q\) because the \(\sim\) intervenes. ‘bas’ would in my analysis get the same lexical entry as ‘only’ in (6).

In order to find out the binding properties of the \(Q\)-operator, it had to be tested whether focus evaluation out of a question is grammatical in the language under discussion. The relevant configuration of this phenomenon is given in (2), which requires the \(\sim\) to associate with the focused phrase that is in an embedded question. The relevant data are given in (9).

(9) Context: Muna is on holidays in Madrid in Spain. She can speak Spanish but she is very shy. She wants to find out where the museum, the cinema and the cathedral are. So she walks to the tourist centre. However, while asking for directions, she blushes because she is so shy. That’s why she only asks for one thing:

[Judgement Task: ‘Muna only asked where the museum\(_F\) is.’]

monaa bas sa’ala-t ween al-matHaf.
Mona only asked-3.Ps.Sg.FEM where the-museum.

‘Mona only asked where the museum is.’

The data in (9) show that \(Q\) is selective. If it was unselective, then it would bind both the wh-phrase and the focused phrase and the squiggle would not have anything left to evaluate. The structure would thus get ungrammatical. ‘bas’ would in my analysis get the same lexical entry as ‘only’ in (6).

Conclusion My data thus give further evidence of the universal binding properties of \(Q\) and \(\sim\). They raise an interesting question about the compositional machinery underlying alternative semantics. On the one hand, we have seen evidence that it needs to be flexible enough to allow operators to be either selective or unselective, unlike Rooth’s original system, but on the other hand, it has also been shown that this flexibility must be constrained enough to explain observable regularities in the binding properties of alternative evaluating operators cross-linguistically.