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Polar Questions, "or not" Alternative Questions and Complement Alternative Questions: an Experimental Study.

The puzzle – It has been argued that questions with seemingly identical semantic content have different pragmatic properties. In particular, Bolinger (1978) observed that "or not" Alternative Questions (henceforth, NAQ), contrary to their polar counterparts (PQ), are infelicitous in non-canonical uses – e.g., to make invites, draw inferences, or pose rhetorical questions (in (1-3)); and are instead especially appropriate to force the addressee to respond to an information-seeking question that previously went unanswered (in (4), see also Biezma 2009).

(1) **Invite**: Do you want a drink (# or not)?
(2) **Inference**: You are wet. Is it raining outside (# or not)?
(3) **Rhet**: Are you crazy (# or not)?
(4) **Info-seeking, asking 2nd time**: ✓Did you do your homework or not?

Such contrasts raises an issue: is the restricted illocutionary range of NAQs driven by he specific semantic-pragmatic properties that differentiate alternative from polar questions, or by general pragmatic principles? We address this issue by comparing the distribution of PQs and NAQS with Complement Alternative Questions (CAQ), a type of AQ that spells out the disjuncts differently.

(5) **PQ**: Is it a boy?
(6) **NAQ**: Is it a boy or not?
(7) **CAQ**: Is it a boy or a girl?

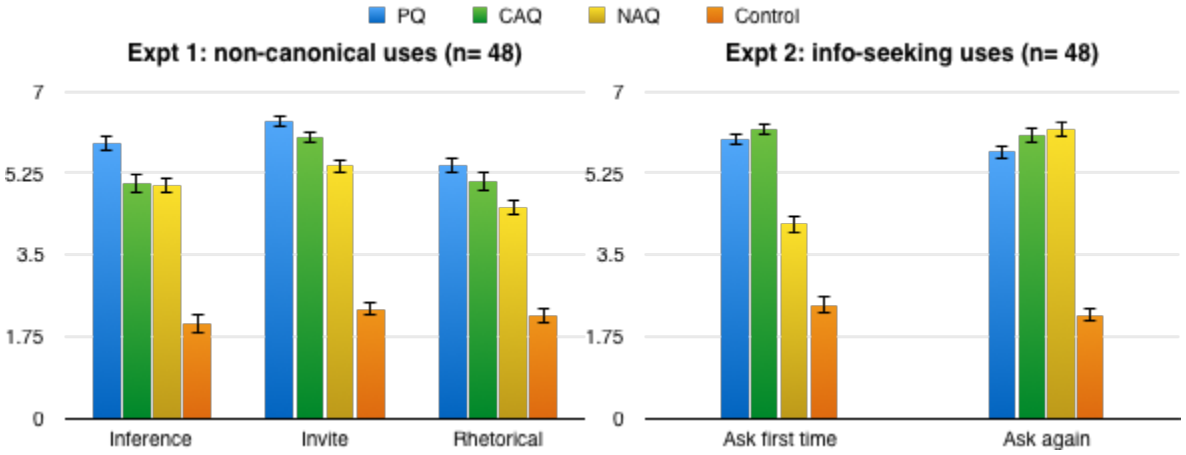
Background – Two competing analyses have been outlined to explain the facts in (1-4). Pragmatic accounts argue that PQs and NAQs have equal denotations {p;¬p}. What makes them different is that PQs, by virtue of pronouncing only one alternative, assign *p* a special pragmatic status – e.g., a higher Utility Value (van Roij and Safarova 2003); NAQs, by pronouncing both, signal *indifference* between the alternatives, driving infelicity in contexts where a preference of the speaker is expected (as in (1-3)). Semantic accounts hold that PQs denote a singleton set {p}, while NAQs denote two exhaustive, mutually exclusive alternatives {p, ¬p} (Biezma 2011, Biezma and Rawlins 2012). This property imbues NAQs with a flavor of *insistence*, which makes them a good strategy to force the addressee to respond to a previously unanswered question (in (4)), but infelicitous when the illocutionary goal is inconsistent with hard-pressing the listener (as in (1-3)). While both sound, such accounts share a limitation: by exclusively contrasting PQs and NAQs, they cannot shed light on whether the illocutionary restrictions of the latter reflect a general property of alternative questions; or if they are instead due to the effects of spelling out the second disjunct as "not *p*", rather than as a full proposition. CAQs emerge as an ideal testbed to address this issue: similarly to NAQs, they (i) pose logically opposite alternatives and (ii) pronounce both of them; yet, they spell out the second disjunct in full. We predict that if what causes the illocutionary restrictions in (1-3) is a general property of alternative questions – be that pragmatic indifference o semantics-driven insistence – CAQs should feature the same restrictions as NAQs. If the illocutionary range of NAQs, instead, is driven by the "or not" formulation of the second disjunct, such restrictions shouldn't hold for CAQs. We test this hypothesis by exploring the distribution of these questions in two rating experiments: Exp 1 for non-canonical uses; and Exp 2 for info-seeking uses.

Methods – Each trial consisted of a dialogue, at the end of which one participant asks a question. Subjects rated the naturalness of the question on a 1(min)-7(max) scale. Two factors were manipulated: (**i**) the question, with 4 different conditions: Polar, Negative Alternative, Complement Alternative, plus a control; (**ii**) the illocutionary goal of the speaker uttering the question, with Exp 1 comparing Inference, Invite and Rhetorical questions and Exp 2 comparing info-seeking questions used discourse-initially and to re-ask a question. The illocutionary goal of the speaker was

specified by the preceding context. 24 items were distributed in 4 lists with a LSD (24 fillers). 48 native speaker of English were recruited on MTurk for each study. Below is an example of an item.

Invite: Joe and Fred are at a party. Joe receives a call from Mary, who invites him over to her own party. John wants to invite Fred to join:
John: "Hey, do you want to ... {**PQ**:come to Mary's?/**NAQ**:come to Mary's or not?/**CAQ**:come to Mary's or do you want to stay here?/**Control**: Do you want a beer?}"

Results – The average ratings of Expt 1 and Expt 2 are plotted below. For both studies, mixed effect models revealed an interaction between Question Type and Context ($p < .001$). Paired comparisons within each type of context revealed the following contrasts. Expt 1: for Inferences, PQs were rated higher than NAQs and CAQs ($p<.001$), for Invites, PQs and CAQs were rated higher than NAQs ($p<.001$); for Rhetorical questions PQs and CAQs were rated higher than NAQs ($p<.001$). Expt 2: for discourse-initial uses, PQs and CAQs were rated higher than NAQs ($p<.0001$); for ask-again, NAQs were rated higher than PQs ($p<.01$) but did not differ from CAQs, while CAQs show a trend towards being rated higher than PQs ($p<.1$). The control condition was rated low across contexts.



Discussion – On one hand, NAQs display a highly specialized illocutionary profile, confirming the claims from the literature. On the other hand, CAQs feature a significantly larger range: while they are as bad as NAQs to draw inferences and as good to re-ask a question, CAQs, can also be successfully used to make invites and ask rhetorical questions, as well as to pose discourse-initial inquiries. These findings support the idea that the illocutionary restrictions on NAQs are crucially underlied by the way in which the second disjunct is spelled out. We suggest that, by expressing the second disjunct through the negation of the first, NAQs bring about a complex effect: not only they lead the listener to pick between two exhaustive/exclusive alternatives; they also signal that one of them is to be preferred/is more important than the other. As such, NAQs emerge as a marked strategy to pose an alternative question in comparison to CAQs, which frame them as perfectly equivalent. Building on Horn's (1984) division of pragmatic labor, we suggest that NAQs' markedness restricts them to contexts where the combination of insistence and and emphasis on *p* is maximally functional for the speaker to achieve their illocutionary goal – i.e., those in which the speaker aims to re-ask a question to wrestle an answer from the listener; CAQs' unmarked status, by contrast, makes them less anchored to such "ask again" contexts, granting them the flexibility to operate in a broader range of situations. As such, exhaustivity/exclusivity and indifference alone, while still crucial, are not fine-grained enough to derive the restricted illocutionary range of NAQs.