

# Are response particles not well understood? Yes/No, they aren't!

## An experimental study on German *ja* and *nein*

Berry Claus, Marlijn Meijer, Sophie Repp, and Manfred Krifka

Humboldt-Universität zu Berlin

{berry.claus|meijeram|sophie.repp|manfred.krifka}@hu-berlin.de

### Abstract

Response particles such as English *yes* and *no* are frequently used in dialogues, to respond to questions or assertions. However, while the use of *yes* and *no* is straightforward in responses to non-negated antecedent clauses, it is not clear-cut with negated antecedent clauses. For example, to agree with an assertion such as *Jim doesn't snore*, both *yes* and *no* can be used (*Yes/No, he doesn't*). The same holds for the German response particles *ja* and *nein* (roughly corresponding to *yes* and *no*). In the present study, we investigated preference patterns for German *ja* and *nein* as responses to negated assertions. Our results revealed two distinct subgroups of participants. One subgroup, approx. 70% of the participants, showed a preference for *ja* over *nein* as agreeing responses to negated antecedents, whereas the other subgroup, approx. 30% of the participants, showed a preference for *nein* over *ja*. To account for this finding, we put forward an ellipsis analysis and propose that the two groups differ with respect to the meaning of *nein*.

### 1 Introduction

Dialogues are rife with response particles such as *yes* and *no*, which are a short means of answering yes/no questions or expressing agreement/disagreement with assertions. However, their use and interpretation is clear-cut only for non-negated antecedent clauses, such as *Jim snores*. Here, *yes* and *no* are used complementarily. For negated antecedents, such as *Jim doesn't snore*, *yes* and *no* are not complementary. They can both be used in disagreeing responses to negated antecedents (*Yes/No, he does*) and they can both be used in agreeing responses (*Yes/No, he doesn't*). The latter also holds for the German response particles *ja* and *nein* (roughly corresponding to *yes* and *no*). The German response particle system differs from English in that it is a three particle system. Besides *ja* and *nein*, it includes the specialized particle *doch*. *Doch* is a dedicated particle for disagreeing responses to negated antecedents, whereas for agreeing responses, both, *ja* and *nein*, can be used (see 1).

- (1) A: *Jim schnarcht nicht.* ('Jim doesn't snore)  
B: i. *Ja.* (= He doesn't snore.)  
ii. *Nein.* (= He doesn't snore.)  
iii. *Doch.* (= He does snore.)

Two recent approaches to response particles, the semantic-syntactic feature model of Roelofsen & Farkas (to appear; =R&F) and the anaphor account of Krifka (2013) allow for predictions as to preference patterns for *ja* and *nein* as responses to negated antecedents. In a nutshell, R&F propose for disagreeing responses that both *ja* and *nein* are blocked due to the presence of *doch* in the system. In contrast, Krifka supposes that *doch* blocks *ja*, whereas *nein* is not blocked, albeit dispreferred. For agreeing responses, R&F predict a general preference for *nein* over *ja*, and Krifka predicts a preference for *nein* over *ja* in default contexts.<sup>1</sup>

### 2 Experimental study

In three acceptability-judgment experiments on responses to negated assertions, participants were presented with short dialogues, as illustrated in Table 1. Each dialogue was preceded by a scene-setting passage, which introduced the two interlocutors and served as the dialogue's context, specifying what the two interlocutors were talking about.<sup>2</sup> The participants' task was to judge the naturalness and suitability of the response in the given dialogue and context on a scale ranging from 1 (very bad) to 7 (very good).

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<sup>1</sup> Krifka's account implies, contra R&F, that the preference for *ja* or *nein* should be sensitive to the wider discourse context. For contexts, in which the negated proposition expressed by the antecedent is salient (rather than its positive counterpart which is assumed to be the salient proposition by default), Krifka predicts a preference for *ja* over *nein*.

<sup>2</sup> The context was varied to manipulate the saliency of the negated antecedent proposition vs. its positive complement. However, as the data did not show any significant interaction effects involving the factor CONTEXT, only results of analyses obtained from data pooled over the two context conditions are presented here for simplicity.

(Setting: Ludwig and Hildegard have their large garden redesigned)

L: *The gardener hasn't sown the lawn yet.*

H: *Yes/No, he has sown the lawn already./  
Yes/No, he hasn't sown the lawn yet.*

Table 1: Sample of the dialogues employed in Expt. 1, translated from German

In **Expt. 1**, we manipulated the factors RESPONSE PARTICLE (*ja/nein*), and RESPONSE CLAUSE POLARITY (positive/negative). In the positive response clause conditions, i.e. disagreeing responses, ratings for *ja* were quite low ( $M=2.11$ ) and significantly differed from the ratings for *nein* ( $M=5.34$ ), suggesting, that only *ja* but not *nein* is blocked by *doch*. The results of **Expt. 2**, which included *doch* as an additional level of RESPONSE PARTICLE demonstrated significantly higher ratings for *doch* ( $M=6.76$ ) compared with *nein* ( $M=3.84$ ) and *ja* ( $M=1.81$ ), and replicated the significant difference between *nein* and *ja*. In the negative response clause conditions of **Expt. 1**, i.e. agreeing responses, *ja* ( $M=6.09$ ) was rated significantly higher than *nein* ( $M=4.80$ ). This pattern was replicated in **Expt. 3**, where the responses did not include a follow-up phrase, but were bare particles.<sup>3</sup> As in Expt. 1, *ja* ( $M=5.91$ ) received significant higher ratings than *nein* ( $M=4.24$ ). Thus, contra both R&F's feature model and Krifka's anaphor account, the results of Expt. 1 and 3 indicate a general preference for *ja* over *nein* as agreeing responses to negated antecedents rather than for *nein* over *ja*. However, a closer inspection of the data revealed two distinct subgroups of participants. About 70% of the participants of Expt. 1 and 3 showed the unpredicted pattern of higher ratings for *ja* than for *nein* ("Yes-group"). In contrast, about 30% of the participants in both experiments, showed the reverse pattern, i.e. higher ratings for *nein* compared to *ja* ("No-group").

### 3 An ellipsis account

To account for the observed data pattern, we propose an ellipsis account. Syntactically, we analyse *ja*, *nein* and *doch* as operators that operate on the TP, which is a copy of the antecedent, and is obligatorily elided. With respect to the oppo-

site preference patterns for the two subgroups, we suggest that the two groups apply different response systems: truth-value vs. polarity based (Jones, 1999). The "Yes-group" uses a truth-value based system with *ja* signalling the truth (and *nein* the falsity) of the antecedent, whereas the "No-group" uses a polarity based system with *nein* signalling a negative response polarity (and *ja* a positive one). Formally, this difference can be modelled in a parsimonious way by assuming that the two groups differ only in the meaning of *nein* (see Table 2).

<b>Both groups</b>	$\llbracket ja \rrbracket = \lambda p.p$ $\llbracket doch \rrbracket = \lambda p:\text{"p is negative"}. \neg p$
<b>"Yes-group"</b>	<b>"No-group"</b>
$\llbracket nein \rrbracket = \lambda p.\neg p$	$\llbracket nein_1 \rrbracket = \lambda p.\neg p$ $\llbracket nein_2 \rrbracket = \lambda p:\text{"p is negative"}. p$
Note: $p$ = antecedent proposition; <i>doch</i> and <i>nein<sub>2</sub></i> have the presupposition that $p$ is negative	

Table 2: Proposed meanings for *ja*, *nein*, and *doch*

As a brief illustration of the proposed semantics consider the decisive case of agreeing responses to negated antecedents (e.g., A: *John doesn't snore*. Intended response of B: He doesn't snore). For the "Yes-group", *ja* is the only response particle that expresses the intended meaning (=antecedent proposition). For the "No-group", both *ja* and *nein<sub>2</sub>* express the intended meaning, with *nein<sub>2</sub>* being preferred over *ja* due to *Maximize presupposition* (Heim, 1991).

To conclude: our experimental study revealed two subgroups of participants, differing in the preference pattern for *ja* and *nein* as agreeing responses to negated assertions. As a preliminary proposal, we put forward an ellipsis account, deserving further study.

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<sup>3</sup> To make clear whether a bare *ja* or *nein* should be taken as an agreeing response, the scene-setting passages in Expt. 3 contained information on the 'epistemological state' of the responding person (e.g. *The gardener told Hildegard that he would sow the lawn in a couple of days*).