

## Epistemic particles and performativity

**Summary:** The German discourse particles *ja* and *doch* both mark the information expressed by their host sentence as somehow given, obvious, or uncontroversial (McCready & Zimmermann 2011 call them ‘epistemic particles’). Two things are puzzling: (i) despite its ‘epistemic’ nature, *doch* can appear in imperatives and with performative modals; (ii) despite their similarity, *ja* is unacceptable in imperatives and forces a descriptive reading of modal verbs. We explain (i) by the assumption that performativity arises for modalized propositions in particular contextual constellations. Particles signal specific contextual constellations, which may affect the availability of performative readings. To account for (ii), we offer a novel analysis for *ja* and *doch* that explains the inviolable ban against *ja* (but not *doch*) from performative modal contexts in terms of monotone vs. non-monotone inferences. Our account contrasts with explanations for violable effects discussed and derived elsewhere (in particular Grosz, t.a.).

**Meaning of *ja* and *doch*:** It is generally agreed that discourse particles don’t contribute to the truth-conditional content, but it is still under dispute if they trigger presuppositions, express conventional implicatures, or convey expressive meaning of yet another sort. In this talk we focus on the content of the particles’ meaning. We are not entirely convinced by the arguments against a presuppositional analysis (cf. Zeevat 2002, McCready & Zimmermann 2011) and will for the moment treat them as presuppositions (with e.g. Grosz t.a.). We focus on unstressed *ja* and *doch*. The literature on *ja* and *doch* offers various formulations of ‘given’/‘old’/‘uncontroversial’, but thus far no formal analysis claims to capture all usages of either. Both range from marking something as mutual joint belief to marking that the speaker S has just realized something about her immediate environment (*doch* can replace *ja* in (1) which changes the flavor only slightly; its appearance in speaker-surprise cases like (2) depends on focus structure, Grosz t.a.).

- (1) Wir haben ja schon gesagt, dass wir hingehen, aber brauchen wir das Auto?  
we have JA already said that we to.there, but need we the car  
‘As we’ve already established, we’ll go there, but do we need the car?’
- (2) Oh, du hast ja ein Loch im Ärmel!  
oh, you have JA a hole in.the sleeve  
‘Oh, you have a hole in your sleeve!’

We propose that both particles express that S takes *p* to be easily derivable in the utterance situation (from information already available or the extra-linguistic settings), but with a slight difference in degree of strength. *doch* imposes the additional requirement that its host sentence be contextually incompatible with another salient piece of information (Karagjosova 2004, Egg 2010, Grosz t.a.). We say ‘ $\phi$  presupposes  $\psi$ ’ to mean that an utterance of  $\phi$  commits S to the belief that  $\psi$  is mutual joint belief (cf. Stalnaker 2002), i.e. upon S’s utterance of  $\phi$  it becomes mutual joint belief that S believes that  $\psi$  is mutual joint belief (in short,  $C_{S,H}B_S C_{S,H}\psi$ ).

- (3) *ja(p)* uttered in *c* presupposes that in any situation like *c* any rational agent who tries to find out whether *p* will find out that *p* (from information available or immediate surroundings).
- (4) *doch(p)* uttered in *c* presupposes that
  - a. in a situation like *c*, **normally**, a rational agent who tries to find out whether *p* will find out that *p* (from information or immediate surroundings), and
  - b. there is a salient *q* s.t. (at least given mutual joint belief) it is incompatible with *p* and, before the utterance, either S or H could not exclude *q*.

**Performativity:** Kaufmann (2011) claims that imperatives (i) denote modalized propositions and (ii) carry presuppositions which are satisfied in just those contexts in which modal verbs receive performative interpretations. For a proposition of the form *It is best according to f and g that you do p* (*f* a suitable modal base, *g* a deontic, bouletic, or teleological ordering source, cf. Kratzer 1991; in short,  $\Box^{f,g}p$ ), the relevant contexts are those in which the following is entailed by mutual joint belief between S and H.

- (5) a. S has perfect knowledge of *f* and *g*:

- $f, g \in \{r \in D_{s((st)t)} \mid \forall p[p \in r \leftrightarrow B_S(p \in r)]\}$  **Authority Condition (AC)**
- b. When uttering the imperative, S believes that H is not already independently determined to either do  $p$  or not do  $p$ . **Epistemic Uncertainty Condition (EUC)**
- c. There is a salient decision problem  $\Delta_c \subseteq Pow(W)$  s.t. the ordering source  $g$  provides the relevant criteria and the imperative picks out a solution for  $\Delta_c$ .

**Ordering Source Restriction (OSR)**

[simplified to ignore imperatives unrelated to action, see Kaufmann 2011]

Together, these ensure that the following are also mutual joint belief:

- (6) a. S considers it possible that H does not know  $\Box^{f:g}p$  independently of the imperative. (Else, because of (5c), S would believe that H will do  $p$  independently of the imperative, which would be incompatible with (5b).)
- b. Because of (5c), a rational agent will try to find out whether  $\Box^{f:g}q$  for all  $q \in \Delta_c$ .

**Combining particles and performativity:** Assume that S and H take each other to be competent speakers of German who meet the standards of rational behavior. Consider first *ja*:

- (7) If *ja*( $\Box^{f:g}p$ ) is uttered felicitously in  $c$ , the following is mutual joint belief in  $c$ :
- a. If H tries to find out whether  $\Box^{f:g}p$ , H will find out  $\Box^{f:g}p$ . from *ja*, cf. (3)
- b. H does not know  $\Box^{f:g}p$  independently of the imperative. (6a)
- c. H tries to find out whether  $\Box^{f:g}p$ . (6b)
- d. H knows  $\Box^{f:g}p$  independently of the imperative. (7a),(7c)

Thus under straightforward assumptions about the rationality and competence of S and H, from the combination of performative modality and *ja* we derive the contradiction between (7b) and (7d). Therefore we predict *ja* to be unavailable in imperatives and with performative modals. None of the conditions in (5) need to hold if a modal is used descriptively, hence the conflict need not arise for such cases. Now, consider *doch*:

- (8) If *doch*( $\Box^{f:g}p$ ) is uttered felicitously in  $c$ , the following is mutual joint belief in  $c$ :
- a. S believes defeasibly that, if H tries to find out whether  $\Box^{f:g}p$ , she will find out that  $\Box^{f:g}p$ . from *doch*, cf. (4a)
- b. There is a salient  $q$  s.t. (at least with respect to mutual joint belief)  $q$  is incompatible with  $\Box^{f:g}p$  and before the utterance, H could not exclude  $q$ . from *doch*, cf. (4b), and (5a)
- c. H does not know  $\Box^{f:g}p$  independently of the imperative. (8b)
- d. H tries to find out whether  $\Box^{f:g}p$ . (6b)

With *doch*, the inference from (8d) and (8a) to ‘H knows  $\Box^{f:g}p$  independently of the imperative’ is defeasible and, in this context, blocked by (8b). The *doch*-speaker is committed to the belief that even though H should have been able to find out  $\Box^{f:g}p$  herself, she failed to. The *doch*-move is correctly predicted to be felicitous. The prediction of a slight derogatory flavor (‘H failed to see an obvious solution’) strikes us as correct, too.

**Conclusion** We offer an account for *ja* and *doch* as interacting with the contextual constellations observed with performative modality/imperatives. The meaning of *doch*, but not of *ja* allows to block a defeasible inference that would render the particle infelicitous in the constellations required for performative modality/imperatives. Future research should investigate differences between various modals (*can/must/should*) as well as a precise account of what is meant by ‘trying to find out’ (logical reasoning, awareness, ...).

**Egg** (2010) ‘A unified account of the semantics of discourse particles’. *Proc. of SIGDIAL 2010, Tokyo*. **Grosz** (t.a.) ‘German *doch*: An element that triggers a contrast presupposition’. In: *Proc. of CLS*. **Karagjosova** (2004) *The Meaning and Function of German Modal Particles*. PhD thesis, Saarbrücken. **Kaufmann** (2011) *Interpreting Imperatives*. Springer. (Rev. PhD thesis Schwager 2006). **Kratzer** (1991) ‘Modality’. In: Stechow & Wunderlich (eds) *Semantik*. **McCready & Zimmermann** (2011) *Particles*. ESSLLI course. **Stalnaker** (2000) ‘Common Ground’. *L&P* 25. **Zeevat** (2002) ‘Particles: Presupposition triggers or context markers’. Ms., Amsterdam.