A uniform representation of German embedded polar interrogatives, a typology of their embedding predicates and adaptors

Kerstin Schwabe (ZAS Berlin)

The talk will present a typology of German ob-predicates like argwöhnen 'suspect' as in (1), that is, of predicates that embed ob-clauses, a uniform analysis of ob-clauses and quantifiers that adapt ob-clauses to different verb classes.

(1) ... die Gesundheitsbehörden müssen stets argwöhnen, ob sich eine neue Epidemie anbahnt.

ZDB 898: DWDS TS 2003
'The health authorities always have to suspect whether a new epidemic is looming.'

The typology is based on the ZAS Data Base of German clause embedding predicates which contains about 1790 synchronical annotated and exemplified predicates including 666 ob-predicates – cf. Stiebels et al. (2017). The typology is more exhaustive than Wunderlich's (1976) and Karttunen's (1977) characterizations since it also contains predicates that embed reports of indirect speech acts – see (5) below. It is more elaborated since its classification is more fine-grained and includes the compositionally derived Logical Form of each construction type. The talk will show that the majority of ob-predicates denote eventualities that are located on a 'route' from an individual's α question state QSα 'α wants [(α knows that σ) ∨ (α knows that ¬σ)]' to her or his answer state ASα '[(α knows that σ) ∨ (α knows that ¬σ)]'. There is an interactive and a non-interactive epistemic route as well a deontic route.

Interactive epistemic route: QSα > QAα > AAβ > BSα > ASα

The interactive epistemic route includes, in addition to QSα and ASα, a question act QAα, an answer act AAβ of the addressee β and a believe state BSα of the question state holder α. The answer act is either a proper answer act pAAβ – the addressee of the question act believes to render the true answer – or an improper answer act ipAAβ – an act where the addressee reacts, but does not render a believed true answer.

Question states are denoted by predicates like sich fragen 'wonder' or argwöhnen 'suspect' – see (1). Question acts are related to by predicates like fragen 'ask' or nachhaken 'ask further questions'. Proper answer acts pAA are denoted by verbs like ankündigten 'announce' or gestehen 'confess'. Generally, they embed declaratives, but they also occur with ob-interrogatives in particular contexts – see (2).

(2) ... dass der französische Verkehrsminister Jean-Claude Gayssot und sein britischer Kollege in Le Bourget ankündigt, ob und wann die Concorde wieder fliegen darf. ZDB 551: DWDS BZ 2001

'... that the French minister of transport ... will announce whether ... the Concorde is allowed to fly.'

Improper answer acts ipAA can be related to by predicates like verheimlichen 'conceal', egal sein 'do no care' or nicht sicher sein 'be not sure' – see (3a, b).

(3) a.  Es ist mir egal, ob ich berühmt bin oder nicht. ZDB 3233: DWDS BZ 2005

'I do not care if I'm famous or not.'

Depending on whether the question state holder believes the answer given by the answer act of the addressee and whether the answer is true, the question state holder is in an answer state AS_{q}. The latter is denoted by predicates like wissen 'know'.

As for the non-interactive epistemic route, it contains – instead of QA_{q} and AA_{q} – the research act of the question state holder RsA_{q} and his or her result state ReS_{q}.

Non-interactive epistemic route: \[ QS_{q} > RsA_{q} > ReS_{q} > BS_{q} > AS_{q} \]

Research acts are denoted by predicates like abwägen 'ponder' or ausprobieren 'test'. Result states are related to by predicates like herausfinden 'find out' or folgern 'conclude'.

Whereas the truth of \( \sigma \) or \( \neg \sigma \) of the epistemic question-answer routes is decided on with respect to the actual world, the validity of \( \sigma \) or \( \neg \sigma \) of the deontic question-answer route is determined with respect to a deontic world.

Deontic route: \[ QS_{q} > QA_{q} > AA_{q} > AS_{q} \]

Question acts on a deontic route are denoted by predicates like bitten 'ask' or fragen 'ask'. Proper answer acts are related to by predicates like bestimmen 'determine' or entscheiden 'decide'. Improper answer acts are related to by predicates like verantworten müssen 'have to account for' or egal sein 'do not care' – see (4).

(4)  \textit{Er mag es selbst verantworten}, ob er sich zum Richter über Leben und Tod aufschwingt. ZDB 8574: DWDS Zeit 2005  
'He must account for if he rules over life and death.'

Beside \( ob \)-predicates denoting an eventuality on a question-answer route, there are \( ob \)-predicates relating to indirect speech acts or beliefs. Their embedded \( ob \)-clause often contains a modal particle:

(5)  Paul Ehrenfest hat … \textit{vorgeschlagen}, ob man \textit{nicht} so etwas wie Teilchen der Strahlung definieren könnte,… ZDB 11562: DWDS Zeit 2004  
'Paul E. has proposed whether it isn't possible to define particles of radiation …'

Indirect speech acts are related to by predicates like vorschlagen 'propose', verspotten 'mock', and bitten 'ask'. Indirect beliefs can be related to by verbs like fürchten 'fear', eingestehen 'admit' or daran denken 'think of'.

Like Adger & Quer (2001) in their analysis of unselected \( if \)-clauses (6), the talk represents \( ob \)-clauses uniquely as questions that correspond to the set of propositions \( \{\sigma, \neg \sigma\} \) – cf. (6iv). As far as unselected \( ob \)-clauses are concerned, which are only licensed in negative contexts, Adger & Quer suggest that they are a complement of a non-overt determiner \( \Delta \) that applies them to their matrix clause – see (6v-viii).

(6)  The bar tender \( j \) does \([XP \not \{VP [\Delta P \Delta [CP if the costumer was drunk]] \}, [VP t_j \text{ admit } t_j]]\)

\[
\begin{align*}
\text{i. } [V] & = \lambda p \lambda x \text{ [admit (p, x)]} \\
\text{ii. } [VP] & = \lambda r \text{ [admit (r, bar tender)]} \\
\text{iii. } [if] & = \lambda p \lambda q [(q = p) \lor (q = \neg p)] \\
\text{iv. } [if-CP] & = \lambda q [(q = \text{come } m) \lor (q = \neg \text{ come } m)] \\
\text{v. } [\Delta] & = \lambda R \lambda P \exists q \text{ [Rq } \wedge \text{ Pq]} \\
\text{vi. } [\Delta P] & = \lambda P \exists q \text{ [((q = \text{come } m) \lor (q = \neg \text{ come } m))] } \wedge \text{ Pq]} \\
\text{vii. } [VP'] & = \exists q \text{ [((q = \text{come } m) \lor (q = \neg \text{ come } m))] } \wedge \text{ [admit (q, bar tender)]} \\
\text{viii. } [XP] & = \neg \exists q \text{ [((q = \text{come } m) \lor (q = \neg \text{ come } m))] } \wedge \text{ [admit (q, bar tender)]}
\end{align*}
\]
Whereas Adger & Quer regard $\Delta$ as a polarity sensitive generalized quantifier, the talk extends it to a neutral generalized quantifier $\Psi$, which can be applied to an ob-clause that is embedded by a predicate like wissen 'know' or sicher sein 'be certain' – cf. (7) and (8).

(7) Frank weiß, ob Maria kommt.
'Frank knows whether Maria will come.'

 $$[\text{CP} \ldots [\text{VP} \ [\text{V} \ [\text{V} \ [\text{weiß}]]] \ [\Psi \ [\text{VP} \ [\text{ob} \ [\text{TP} \ [\text{Maria kommt}]])]])$$

i. $\[V\] = \lambda p \in P \lambda x \lambda e \text{ [know (p, x, e)]}$

ii. $\[VP\] = \lambda r \lambda e \text{ [know (r, frank, e)]}$

iii. $\[ob\] = \lambda q_0 \in P \lambda p \in P [(q = p) \lor (q = p)]$

iv. $\[ob-CP\] = \lambda p \in P [(p = \text{come maria}) \lor (p = \neg \text{come maria})]$

v. $\[\Psi\] = \lambda R_0 \in Q \lambda P_0 \in PAP \exists q \exists e [(P (p, e)) \land (R (p))]$

vi. $\[\Psi\] = \lambda P_0 \in PAP \exists q \exists e [(P (p, e)) \land ((p = \text{come maria}) \lor (p = \neg \text{come maria}))]$

vii. $\[VP\] = \exists q \exists e [(\text{know (p, frank, e)}) \land ((p = \text{cm}) \lor (p = \neg \text{cm}))]$

viii. $\[VP\] = \exists q \exists e [(\text{know (p, f, e)}) \land ((p = \text{cm}) \lor (p = \neg \text{cm}))]$

$\Psi$ relates the ob-clause to a predicate like wissen 'know', which relates to the set of facts ($\mathcal{F}$) – cf. Hintikka (1976) and Groenendijk & Stokhof (1984). These predicates are objectively veridical (OVP) in terms of Giannakidou (2003) or Schwabe & Fittler (2014). Predicates like sicher sein 'be certain' are subjectively veridical (SVP) – cf. Öhl (2016) and Giannakidou (2003). The talk suggests that the derivation of the Logical Form of constructions with a subjectively veridical predicate like (8) is similar to the derivation of constructions with an objectively veridical predicate like (7). Since predicates like sicher sein 'be certain' are not objectively veridical, an affirmative context would lead to pragmatic inappropriateness. If, however, (8vii) is in the scope of a non-veridical operator, a felicitous representation results – cf. (8viii).

(8) Frank ist nicht sicher, ob Maria kommt.
'Frank is not certain if Maria will come.'

 $$[\text{CP} \ldots [\text{ nicht [VP [\text{V} \ [\text{V} \ [\text{weiß}]]]) [\Psi [\text{VP} [\text{ob} [\text{TP} \ [\text{Maria kommt}]])]])]$$

i. $\[V\] = \lambda p \in P \lambda x \lambda e \text{ [be certain (p, x, e)]}$

ii. $\[VP\] = \lambda r \lambda e \text{ [be certain (r, frank, e)]}$

iii. $\[ob\] = \lambda q_0 \in P \lambda p \in P [(q = p) \lor (q = p)]$

iv. $\[ob-CP\] = \lambda p \in P [(p = \text{come maria}) \lor (p = \neg \text{come maria})]$

v. $\[\Psi\] = \lambda R_0 \in Q \lambda P_0 \in PAP \cup pAP \exists p \exists e [(P (p, e)) \land (R (p))]$

vi. $\[\Psi\] = \lambda P_0 \in PAP \cup pAP \exists p \exists e [(P (p, e)) \land ((p = \text{cm}) \lor (p = \neg \text{cm}))]$

vii. $\[VP\] = \exists p \exists e [(\text{be certain (r, frank, e)}) \land ((p = \text{cm}) \lor (p = \neg \text{cm}))]$

viii. $\[CP\] = \neg \exists p \exists e [(\text{be certain (r, frank, e)}) \land ((p = \text{cm}) \lor (p = \neg \text{cm}))]$

A predicate like glauben 'believe', which is also subjectively veridical, reveals that subjective veridicality is not a sufficient condition for a subjectively veridical predicate to embed an ob-clause.
The predicate has additionally to be antonymous, that is, it must be consistent with (9a) as well as with (9b), while (9b) corresponds to (6viii) or (8viii). However, glauben 'believe' is complementary if there is any epistemic activity involved. That is, it is only consistent with (9a), which, by the way, implies neg-raising.

(9) a. \( \exists p \ [(p = \sigma) \land (\text{verb } \sigma, \alpha)] \lor \exists p \ [(p = \neg \sigma) \land (\text{verb } \neg \sigma, \alpha)] \)

b. \( \forall p \ [(p = \sigma) \Rightarrow (\neg \text{verb } \sigma, \alpha)] \land [(p = \neg \sigma) \Rightarrow (\neg \text{verb } \neg \sigma, \alpha)] \)

Ob-clauses that are embedded by verbs like fragen 'ask' or bedenken 'consider' relate to the question itself, that is, they embed question intensions. They are the complement of the quantifier \( \Omega \):

(10) Frank fragt, ob Maria kommt.

i. \( \llbracket V \rrbracket = \lambda qu \lambda x \lambda e \lambda QAX [\text{say (qu, x, e)}] \land (e \in QAX) \]

ii. \( \llbracket VP \rrbracket = \lambda r \lambda e \lambda QAX [\text{say (qu, f, e)}] \land (e \in \lambda QAX) \]

v. \( \llbracket \Omega \rrbracket = \lambda R_p \in q \lambda P_p \in qP \exists p \exists e \exists QAX [P (qu, QAX, e) \land ((\text{mc } (p) \lor \neg \text{mc } (p))] \]

vi. \( \llbracket \Omega P \rrbracket = \lambda P_p \in qP \exists p \exists e \exists QAX [P (qu, QAX, e) \land ((\text{mc } (p) \lor \neg \text{mc } (p))] \)

vii. \( \llbracket VP \rrbracket = \exists p \exists qu \exists e \exists QAX [\text{say (qu, f, e)}] \land (e \in \lambda QAX) \land ((\text{mc } (p) \lor \neg \text{mc } (p))] \)

Returning to the question-answer routes, epistemic as well as deontic QS_{\alpha^r}, QA_{\alpha^r} and Rs_{\alpha^r}-predicates are elements of the family of question predicates \( QP \), the set of sets of predicates directly relating to questions. They agree with \( \Omega P \). Proper AA_{\beta^r}, ReS_{\alpha^r} and AS_{\alpha^r}-predicates are elements of \( OV P \), the set of objectively veridical predicates. Improper AA_{\beta^r}-predicates are elements of the intersection of subjectively veridical and antonymous predicates \( SV P \cap AP (ASVP) \). Both, OVPs and ASVPs match with \( \Psi P \). ASVPs only agree with \( \Psi P \)s in non-affirmative contexts. Predicates denoting indirect speech acts agree with \( \Omega P \).

References


