Modal particles: deriving syntax from semantics

Introduction German modal particles (MPs) have many special syntactic and semantic properties which make them an interesting object of studying the syntax-semantics interface. However, most formal approaches to MPs either focus on their syntax (e.g. Coniglio 2008; Grosz 2005) or on their semantics (Gast 2008; Karagjosova 2004; Kratzer 1999) without directly addressing the question of how their semantic and syntactic properties are connected with each other (for an exception, cf. Zimmermann 2004). In this talk, I will try to highlight the relation between the special semantics of MPs and their syntax behavior.

Properties of MPs The list in (1) summarizes some of the syntactic and semantic properties commonly ascribed to modal particles (cf. e.g. Autenrieth 2002: 29).

(1)
a. MPs are non-truth-conditional.
b. MPs have sentential scope.
c. MPs are sentence mood dependent.
d. MPs cannot receive main stress.
e. MPs cannot be questioned.
f. MPs cannot occur in the so-called prefield (Germ. *Vorfeld*).

My first aim is to give a multidimensional semantics for MPs to capture the fact that they do not contribute to the truth-conditional content of an utterance. Secondly, I try to derive as much of their properties as possible from that semantics.

Multidimensional semantics for MPs I follow Kubota & Uegaki's (2010) proposal to employ the continuation based semantics developed by Barker & Shan (2008) to model multidimensional content. The lexical entry for *ja* for instance, can be given as in (2). The important factor there is that on top of the semantic part, there is a tuple, whose first member corresponds to the truth-conditional content, whereas the contribution *ja* is located at the second part of the tuple, the expressive or use-conditional content. If the tower is lowered, the propositional content will fit into the hole [].

(2)
$$\begin{array}{c} \begin{array}{c|c} \text{Ass} & \text{Ass} \end{array} \\ \hline (\text{DP}\backslash\text{S})/(\text{DP}\backslash\text{S}) \\ ja \\ \lambda p.\dfrac{\langle [\,], \mathbf{ja}(p)\rangle}{p} \end{array}$$

Sentential scope This lexical entry treats *ja* locally as a VP-modifier (however, due to the semi-free word order of German, it should be noted that some flexibility will be needed) of category (DP\S)/(DP\S). However, what is crucial here, is that the semantic evaluation of *ja* is delayed until the semantic composition reaches the status of an assertion (category Ass). This also ensures that MPs have sentential scope without assuming any movement operations.

Sentence-mood dependence Such an entry can directly capture the fact that MPs are only compatible with specific sentence moods. While *ja* can only occur in assertion, *denn* is only licensed in questions. Accordingly, if *ja* is used in a question, the continuation tower cannot be lowered and the semantic contented cannot be evaluated.

Unstressability The fact the MPs cannot receive main stress is based on the fact that they cannot be the focus of the sentence. Assuming a standard alternative semantics for focus (Rooth 1996), this can easily be derived from the multidimensional semantics. The only assumption need is that the focus interpretation operator $\sim C$ is attached at sentential level, which seems reasonable. If *ja* carries the focus feature, then $\sim C$ will attach to a sentence with a trivial focus value $\{p\}$. According to Rooth's focus interpretation principle, this will trigger the tripartite presupposition

that the value of C is a subset of the singleton $\{p\}$, that C contains p and at least one other element. Since this pressuposition cannot be fulfilled, focus on MPs is infelicitous.

MPs cannot be questioned Rooth (1996) gives an account on questions that relies on his theory of focus interpretation. A question explicitly sets the value for the variable C that gets introduced by the focus interpretation operator ~ in the answer. However, since the meaning of MPs resides in a different level of meaning, the focus interpretation operator cannot find the focus. Therefore, a question about an MP is a question that cannot be felicitously answered.

MPs cannot occur in the prefield For an expression to occur in the prefield (the position commonly associated with CP,spec), specific conditions have to hold (Steinbach 2002: 162): (i) The first argument of the unmarked word order (in the middle field) can occupy CP,spec, (ii) the focus can occupy CP,spec, and (iii) the topic can occupy CP,spec. MPs are not the first element of the unmarked word order (they typically appear after the subject at the left edge of VP), they cannot be the focus as already argued, and since the topic is built on top of the focus (Büring 1997) the same argument applies to the last condition.

Conclusion I have illustrated that giving a compositional semantics for MPs allows for deriving many of their syntactic features, relying only on independently motivated analysis of other linguistic phenomena. Further research will show whether even more syntactic properties of MPs or other expressions can directly be derived from such a semantics.

References

Autenrieth, Tanja (2002): *Heterosemie und Grammatikalisierung bei Modalpartikeln. Eine synchrone und diachrone Studie anhand von* eben, halt, echt, einfach, schlicht *und* glatt. (Linguistische Arbeiten 450). Tübingen: Niemeyer.

Barker, Chris & Shan, Chung-chieh (2008): "Donkey anaphora is in-scope binding". In: *Semantics & Pragmatics* 1(1), 1–42. doi: 10.3765/sp.1.1.

Büring, Daniel (1997): *The Meaning of Topic and Focus. The 59th Street Bridge Accent*. (Routledge Studies in German Linguistics 3). London: Routledge.

Coniglio, Marco (2008): *Die Syntax der deutschen Modalpartikeln. Ihre Distribution und Lizensierung in Haupt- und Nebensätzen*. PhD thesis. Venice: University of Venice.

Gast, Volker (2008): "Modal particles and context updating – the function of German *ja, doch, wohl* and *etwa*". In: Vater, Heinz & Letnes, Ole (eds.): *Modalverben und Grammatikalisierung*. Trier: WVT.

Grosz, Patrick (2005): dn *in Viennese German. The syntax of a clitic version of the discourse particle* denn. MA Thesis. Vienna: University of Vienna.

Karagjosova, Elena (2004): *The meaning and function of German modal particles*. PhD thesis. Saarbrücken: Universität des Saarlandes.

Kratzer, Angelika (1999): "Beyond *ouch* and *oops*. How descriptive and expressive meaning interact". In: *Cornell Conference on Theories of Context Dependency*. Cornell University. Ithaca, NY.

Kubota, Yusuke & Uegaki, Wataru (2010): "Continuation-based semantics for conventional implicatures. The case of Japanese benefactives". In: Ito, S. & Cormany, E. (eds.): *Proceedings of Semantics and Linguistic Theory (SALT) XIX,* New York: CLC Publications.

Rooth, Mats (1996): "Focus". In: Lappin, Shalom (ed.): *The Handbook of Contemporary Semantic Theory*. Oxford: Blackwell, 271–297.

Steinbach, Markus (2002): *Middle voice. A comparative study in the syntax-semantics interface of German*. (Linguistik Aktuell/Linguistics Today 50). Amsterdam: Benjamins.

Zimmermann, Malte (2004): "Discourse particles in the left periphery". In: Shaer, Benjamin et al. (eds.): *ZAS Papers in Linguistics*. 35), 543–566. URL: http://amor.rz.hu-berlin.de/~zimmermy/papers/MZ2004-ZASPIL-wohl.pdf.