

**Jakob Mache (University of Vienna):
The Decline of Argument Structure**

The rise of epistemic modals in German remains up to now unaccounted for. Neither accounts following the tradition of ROSS (1969) offer a satisfying explanation, nor do those in the sense of WURMBRAND (2001): According to the view of ROSS, root modals have to be regarded as control verbs, while epistemics involve a raising structure. Correspondingly, ABRAHAM (1991) and DIEWALD (1999) conceive the grammaticalization of epistemics as a reanalysis that transformed control verbs (root) into raising verbs (epistemic). This hypothesis can no longer be maintained since AXEL (2001) pointed out the existence of non-epistemic occurrences of raising modals in Old High German (OHG) time.

WURMBRAND (2001: 183), by contrast, claims the existence of different modal readings to the circumstance that they are base generated in different functional projections: root modals as Mod⁰; while epistemic modals as Aux⁰; where AuxP dominates ModP. This analysis would imply that the evolution of epistemic modals in German must have been triggered by some kind of recategorization, Mod > Aux. Note that WURMBRAND's account involves a very unattractive consequence conflicting with CHOMSKY (1981): The different modal readings could not be united within a single lexicon entry, for they belong to distinct syntactic categories.

Counter to WURMBRAND's assumption, I will present an account which provides both an adequate explanation of the diachronic development of German modals and a way of lexical representation that avoids multiple entries.

First of all the situation of German modals is quite more intricate as WURMBRAND suggests, for they involve up to four different forms, each reflecting a different stage of grammaticalization, as pointed out by DIEWALD (1999: 34): *können* initially was used as a transitive verb (stage I). This use, although very rare in contemporary German, was still highly frequent in Middle High German time:

ich enkan decheinen buochstap
I NEGCL.can any.ACC letter.ACC
“I don't know any letter – I'm illiterate“
 PÂRZIVAL 115,27

The further stages of grammaticalization were both already available in OHG: *können* with infinitive as a control verb in ability reading (stage II) and as a raising verb (stage III) as shown by Axel (2001). Stage (IV), the epistemic use, evolved only during the 16th century.

Let us consider this development in detail. At stage (I) *können* contained the following set of formal features: [TH_{ext}, TH_{int}, +P, +Acc], where TH each assigns an arbitrary θ -role, +Acc accusative case of the direct object, and where +P is a feature that licences the complement in terms of HAIDER (1993). According to LEHMANN (1995:126), grammaticalization involves typically the decline of the integrity of a sign. In our case this decline can be conceived of as a loss of features. In a first step the + Acc feature ceased to be obligatory with infinitives, so that they weren't analyzed as nominalized verbs anymore. This step was the birth of the control verb *können*_{ability} containing the features {TH_{ext}, TH_{int}, +P}. Similarly *können*_{possibility} emerged when the assignment of external θ -role perished in particular contexts, so that only two features remained {TH_{int}, +P}. Finally *können*_{epistemic} with the single remaining feature {+P} evolved when it became possible to drop the internal θ -role that is assigned to the infinitive. Note that the decline of argument structure reflects exactly the semantic difference between root modals and epistemics. While in the first case modality targets the action denoted by the infinitival complement, in the latter the target is not the whole infinitive but just its factivity. Correspondingly *können*_{root(stage I,II,III)} denotes the principal possibility of the action,

while *können*_{epistemic(stage IV)} denotes the possibility that the proposition expressed by the infinitive is true.

This becomes even clearer if we shift our attention to the modal *wollen* which denotes *to desire, to want* as a root verb and *to claim* in its quotative-epistemic use. This is exactly what our analysis predicts: in the case of *wollen*_{root} the desire targets the whole infinitival complement, in *wollen*_{quot-epist.} only its factivity. That is, the subject of *wollen*_{quot-epist.} desires that the factivity of the infinitival action is accepted by the hearer.

Now it becomes clearer why epistemic modals occurred initially only with auxiliaries as infinitival complements (DIEWALD 1999). These verbs are too void of semantic content to be able to bear θ -roles in unmarked contexts (in this respect they are akin to expletives), so children were tempted into the assumption of a distinct verbal form.

However, this account of grammaticalization suggests that the different forms of modals should be projected out of the same lexicon entry, where the underlying entry is the one of *können*_{trans} and the other uses are derived by suppression of the corresponding features. This meets exactly the condition of CHOMSKY (1981), which excludes multiple lexicon entries.

Apart from this, our analysis reflects exactly the difference, that only lexical elements may involve an independent argument structure but not functional ones (epistemics assign no θ -roles). Further this explanation offers an answer to the old question, why it is impossible in German to tear a clear distinction between auxiliaries and main verbs. The loss of argument structure does not take place at once but piecemeal, and correspondingly there are several intermediary forms.

Finally, our assumption provides deep insights into why epistemic modals occur across typologically extremely different languages like English, Italian, French or German: In each case they are the result of a decline of argument structure - a process which affects primitives of UG and therefore may apply independently of language specific peculiarities.

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