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Nuyts, Jan (2001). *Epistemic Modality, Language and Conceptualization: A Cognitive-Pragmatic Perspective*. Amsterdam: Benjamins. Pp. xiv, 428.

The aims of Nuyts' monograph are twofold: (i) to give an in-depth functional analysis of the major linguistic expression types of epistemic modality in Dutch, German and to some extent English and (ii) to further investigate the nature of the conceptual systems and processes, i.e. the cognitive infrastructure dealing with world knowledge, and its use.

It contains six chapters: Ch. 1 discusses the basic perspective of the approach, delineates the semantic category of epistemic modality, introduces the four functional factors featuring in the analysis and describes the Dutch and German corpora used. The four major expression types, modal adverbs and adjectives, mental state predicates and modal auxiliaries, are analyzed in Ch. 2-4. Ch. 5 offers the description and the results of an experiment, conducted by Wietske Vonk and Jan Nuyts, focusing on the correlation of information structure and epistemic expression types, the findings of which are contrasted with the conclusions of the corpus analysis. The last and longest chapter opens up the cognitive-conceptual perspective, discussing the nature of conceptual representation, the relation of conceptual and linguistic structure and the conclusions to be drawn for a cognitive-pragmatic model of language production.

In Ch. 1 epistemic modality is defined as concerning "an estimation of the likelihood that (some aspect of) a certain state of affairs is/has been/will be true (or false) in the context of the possible world under consideration" (21-22), while it is stressed that epistemic modality is not a linguistic but a conceptual category involving high-level meta-representational operation over knowledge. It is at the same time different and to be kept apart from the independent category of evidentiality, even though the two do co-occur in certain cases.

The data are based on Dutch and German spoken and written corpora, one lexical item of the classes of expression types chosen as representative: *waarschijnlijk/wahrscheinlich* (*probable/probably*) as adverb and adjective, *denken/glauben* (*think*) as mental state predicate and *kunnen/können* (*can/may/might*) as modal auxiliary.

The four major expression types are investigated, following the description of the lexical-semantic and grammatical properties of each class, in terms of the functional factors evidentiality (more precisely (inter)subjectivity, i.e. whether the responsibility for the epistemic qualification is the speaker's or is shared), performativity vs. descriptivity (the speaker's own current evaluation or one reported by him/her), information structure (the focal or non-focal status of the epistemic evaluation in the discourse context) and discourse strategy (the mitigating use of the expression type).

The corpus analysis has yielded the following results: The opposition between modal adverbs and adjectives is maximal: adverbs are neutral in terms of intersubjectivity, adjectives involve an additional evidential meaning (yet not inherently but due to the syntax of the only construction in which they can occur); adverbs cannot be used descriptively, adjectives structurally can; and, most importantly, adverbs are never used when the epistemic qualification is focal, whereas adjectives are preferred in focal uses, especially if focus results from contrastivity. Discourse strategy does not play a role in this relation.

In view of the non-qualificational meaning of mental state predicates acquiring a qualificational reading it should not be surprising that the latter always inherently involves the combination of an epistemic and an evidential (an inferential or, in case of *denken/glauben*, a subjective) component (as opposed to modal adjectives). Descriptive uses are quite frequent. In the majority of the Dutch and in half of the German cases the speaker is then also suggesting that s/he is skeptical about the evaluation reported by him/her. Concerning information structure one must differentiate between parenthetical mental state predicates, always non-focal, and the complementing pattern, allowing for (only contrastive) focus much more rarely than modal adjectives. Here, in performative uses, discourse strategy does play an important role by weakening the force of the claim or the reaction and seems also to account for the high frequency of this expression type in spoken language.

Modal auxiliaries seem to be the semantically most complex expression type. Nuyts claims that the epistemic reading of *kunnen/können* is less prominent, not well established and that the majority of the uses express dynamic modality, pure epistemic qualifications being restricted not to the *Hij kan gedanst hebben/Er kann getanzt haben* (He may have danced) but to the complementing structure *Het kan/zou kunnen zijn dat.../Es kann/könnte sein, dass...* (It may/might be that ...). Nuyts concludes that the dynamic reading is the default, on which the epistemic is dependent as a productive inference, except for the complementing pattern, possibly specializing for the epistemic use. This structure again points towards an intersubjective meaning but, interestingly, does not allow for focalization at all. There are no corpus cases for the descriptive use of these modals. The discourse function of modals is not

face-saving (as with mental state predicates) but rather they serve as an argument managing means. In sum, they seem to be neutral regarding all four factors.

A short survey of the diachronic development of Dutch modals based on two dictionaries confirms Nuyts's hypothesis that the epistemic meaning does not develop out of the dynamic via the deontic but that the deontic and the epistemic readings both emerge from the dynamic one.

The results of the controlled data elicitation yield further evidence for the findings of the corpus analysis in terms of the role of information structure: predicative adjectives are used when the (scalar dimension of the) qualification is focal, mental state predicates, though rarely in focus, are chosen when focus is on the polar expression and the scalar dimension is expressed separately in the embedded clause.

Finally, Nuyts considers the formation of the paradigm of epistemic modal expressions as influenced by the interaction of an information-structural and an iconic force. Among the theoretical issues addressed he discusses the nature of conceptual and linguistic representation and processing; the conceptual and linguistic structure of qualifications; the relative scope of conceptual categories, their layering and how they relate to the state of affairs expressed. In view of the empirical findings and the conclusions concerning their cognitive background Nuyts also critically overviews the respective representations in Role and Reference Grammar and Functional Grammar and gives an account of them in the framework of Functional Procedural Grammar.

The monograph is an important contribution in terms of both aims. For the research of (the linguistic expressions of) modality it offers further valuable insight into questions that have often been investigated (e.g. the use of modals), establishing, at the same time, a function-to-form perspective and thus the paradigm of the means of expressing epistemic modality in the given languages. Concerning the cognitive-conceptual infrastructure, the results and conclusions of the analysis are called upon as the basis for Nuyts's argumentation in several questions reaching beyond the level of linguistic expression. Therefore this is a most valuable reading for those interested in either of the two aspects, in (epistemic) modality and its linguistic expression, or in a better understanding of the cognitive framework underlying, among others, the use of language.