Differentiating Chinese modals of epistemic necessity: A collostructional analysis of post-modal pattern [Mod + Verb]

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Background and research aim

The meaning of a linguistic expression involves "both the conceptual content and construal of that content" (Langacker, 2008:44). Chinese modals of epistemic necessity (EnMs), such as biran, bixu, yiding and shibi, are near-synonyms that share identical conceptual content but differ in modes of construal (Cussins, 1990; Langacker, 1987; 1991).

Among all modal patterns, [Mod + Verb] is the most frequent and essential usage (Sun, 2017). This paper thus aims to explore the underlying mechanism of EnMs by analyzing the post-modal pattern in a large-scale corpus.

Method

The corpus was built based on an open-access dataset with over 2.95 billion Chinese characters from online media platforms (Xu, 2019), and sentences matching the pattern [EnM + Verb] were extracted as samples of this study.

Collostructional Analysis (Gries & Stefanowitsch, 2004; Stefanowitsch & Gries, 2003, 2005) was adopted to evaluate association strengths between words and their grammatical collocations so as to find the most attracted verbs (collexemes) of the pattern. The attracted collexeme types shared by most EnMs represent the conceptual content of EnMs, and collexemes distinctive to each EnM reflect the respective modes of construal. The collexemes were thus categorized into different types with reference to the semantic domains of lexical verbs (Biber, 2002:370-371). Last, the distribution of collexeme types of EnMs was compared with that of other modality types to indicate how such forms may correspond to modality types.

Results and discussion

The results show that EnMs are primarily attracted to occurrence verbs, causative verbs, and relationship verbs in the post-modal position. Hence, the conceptual content of EnMs represents the high certainty on 1) a new state of affairs through the occurrence of activities and events regardless of people's volition or valency-increasing operation in causative constructions or 2) the state of existence or relationship among entities. Each EnM also has its preferred modes of construal:

1. Yiding has the most diverse usage with attractions of epistemic, dynamic, and deontic modals, action, and mental verbs.

2. Biran and shibi are typical epistemic necessity modals with preferences for causative and occurrence verbs.

3. Biding likes the copular verb shi 'be' and enjoys collocating with a few action verbs indicating hard work like quanliyifu 'make all efforts'

Additionally, the collexeme type distribution of EnMs was found to be more similar to epistemic possibility modal keneng 'probably' rather than the necessity modal bixu 'must', and using necessity modals in a context of knowledge (intensification) is shared among necessity modals.

Conclusion and significance

The essence of EnMs is to use a necessity quantifier to modify epistemic modality. The epistemic sense indicates the strong likelihood of propositions, and thus EnMs attract verbs that denote a change of state or description of relations among entities. The necessity operator expresses the universal satisfaction on the given condition; thus, EnMs can work as intensifiers to stress the truth of knowledge. As a large-scale quantitative study, this study sets a methodological paradigm to explain semantic overlaps and variations of synonyms under the usage-based principle of from-meaning mapping.